

16U 200 PCT FINAL.ST25
SEQUENCE LISTING

<110> OriGene Technologies, Inc
<120> TISSUE SPECIFIC GENES AND GENE CLUSTERS

<130> 16U 200 PCT

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<151> 2002-04-16

<150> US 60/411,882
<151> 2002-09-20

<150> US 60/424,336
<151> 2002-11-07

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<151> 2002-08-16

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<170> PatentIn version 3.1

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atc ctc tct tgc tct gag att tgc tac acc ttc atc att gta ccc aag	240
Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Ile Ile Val Pro Lys	
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Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly	
85 90 95	
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Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Leu Gly Cys Ser His Ser	
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ttt ctg ctg gca gtc atg ggt tat gat cgt tac ata gcc atc tgt aac	384
Phe Leu Ala Val Met Gly Tyr Asp Arg Tyr Ile Ala Ile Cys Asn	
115 120 125	
cca ctg cgc tac tca gtg cta atg gga cat ggg gtg tgt atg gga cta	432
Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu	
130 135 140	

16U 200 PCT FINAL.ST25

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ttc ttc tgc gac att gct cct gtc ctc aag ctg gca tct cac cat aac Phe Phe Cys Asp Ile Ala Pro Val Leu Lys Leu Ala Ser His His Asn 180 185 190	576
cac ttt agt cag att gtc atc ttc atg ctc tgc tgc gct His Phe Ser Gln Ile Val Ile Phe Met Leu Cys Thr Leu Val Leu Ala 195 200 205	624
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Leu Leu Tyr Leu Phe Thr Leu Gly Thr Asn Ala Ile Ile Ile Ser Thr
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Ile Val Leu Asp Arg Ala Leu His Ile Pro Met Tyr Phe Phe Leu Ala
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Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Ile Ile Val Pro Lys
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85 90 95

Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Leu Gly Cys Ser His Ser
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Phe Leu Leu Ala Val Met Gly Tyr Asp Arg Tyr Ile Ala Ile Cys Asn
115 120 125

Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu
130 135 140

Val Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ala Gln Ile Ile Thr
145 150 155 160

16U 200 PCT FINAL.ST25

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Phe Phe Cys Asp Ile Ala Pro Val Leu Lys Leu Ala Ser His His Asn
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His Phe Ser Gln Ile Val Ile Phe Met Leu Cys Thr Leu Val Leu Ala
 195 200 205

Ile Pro Leu Leu Ile Leu Val Ser Tyr Val His Ile Leu Ser Ala
 210 215 220

Ile Leu Gln Phe Pro Ser Thr Leu Gly Val Ile Ala Lys Arg Lys Phe
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160 200 PCT FINAL.ST25

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gtg gcc acc aac ctc att tgt gac atg cgt ttt tgt ggc ccc aac agg Val Ala Thr Asn Leu Ile Cys Asp Met Arg Phe Cys Gly Pro Asn Arg 115 120 125	384
gtt aac cac tat ttc tgt gac atg gca cct gtt atc aag tta gcc tgc Val Asn His Tyr Phe Cys Asp Met Ala Pro Val Ile Lys Leu Ala Cys 130 135 140	432
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gta att atg gtg cct ttt ctg tta att ctc ata tcc tat ggc ttc ata Val Ile Met Val Pro Phe Leu Leu Ile Leu Ile Ser Tyr Gly Phe Ile 165 170 175	528
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Phe Met Ala Cys Ala Thr Gln Leu Phe Phe Leu Gly Phe Ala Cys
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16U 200 PCT FINAL.ST25

Thr Asn Cys Leu Leu Ile Ala Val Met Gly Tyr Asp Arg Tyr Val Ala
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Ile Cys His Pro Leu Arg Tyr Thr Leu Ile Ile Asn Lys Arg Leu Gly
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Leu Glu Leu Ile Ser Leu Ser Gly Ala Thr Gly Phe Phe Ile Ala Leu
 100 105 110

Val Ala Thr Asn Leu Ile Cys Asp Met Arg Phe Cys Gly Pro Asn Arg
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Val Asn His Tyr Phe Cys Asp Met Ala Pro Val Ile Lys Leu Ala Cys
 130 135 140

Thr Asp Thr His Val Lys Glu Leu Ala Leu Phe Ser Leu Ser Ile Leu
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Val Ile Met Val Pro Phe Leu Leu Ile Leu Ile Ser Tyr Gly Phe Ile
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Val Asn Thr Ile Leu Lys Ile Pro Ser Ala Glu Gly Lys Lys Ala Phe
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Val Thr Cys Ala Ser His Leu Thr Val Val Phe Val His Tyr Gly Cys
 195 200 205

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16U 200 PCT FINAL.ST25

16U 200 PCT FINAL.ST25

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75 80 85	
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16U 200 PCT FINAL.ST25

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50 55 60

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Gly Phe Ser Gln Leu Val Ile Phe Met Leu Gly Val Phe Ala Leu Val
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Ile Leu Lys Ile Pro Ser Ser Val Gly Arg Tyr Lys Thr Phe Ser Thr
225 230 235 240

Cys Ala Ser His Leu Ile Val Val Thr Val His Tyr Ser Cys Ala Ser
245 250 255

Phe Ile Tyr Leu Arg Pro Lys Thr Asn Tyr Thr Ser Ser Gln Asp Thr
260 265 270

16U 200 PCT FINAL.ST25
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16U 200 PCT FINAL.ST25

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Ser Val Ala Gly Cys Leu Leu Gln Met Tyr Phe Phe His Ser Leu Gly				
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165	170	175		
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Gln Ile His Gln Ile Phe Cys Asp Phe Thr Pro Val Leu Ser Leu Ala				
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Cys Thr Asp Thr Phe Leu Val Val Ile Val Asp Ala Ile His Ala Ala				
195	200	205		
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Glu Ile Val Ala Ser Phe Leu Val Ile Ala Leu Ser Tyr Ile Arg Ile				
210	215	220		
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Ile Ile Val Ile Leu Gly Met His Ser Ala Glu Gly His His Lys Ala				
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Phe Ser Thr Cys Ala Ala His Leu Ala Val Phe Leu Leu Phe Phe Gly				
245	250	255		
agt gtg gct gtc atg tat ttg aga ttc tca gcc acc tac tca gtg ttt				816
Ser Val Ala Val Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Val Phe				
260	265	270		
tgg gac aca gca att gct gtc act ttt gtt atc ctt gct ccc ttt ttc				864
Trp Asp Thr Ala Ile Ala Val Thr Phe Val Ile Leu Ala Pro Phe Phe				
275	280	285		
aac ccc atc atc tat agc ctg aaa aac aag gac atg aaa gag gct att				912
Asn Pro Ile Ile Tyr Ser Leu Lys Asn Lys Asp Met Lys Glu Ala Ile				
290	295	300		
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Met Phe Ile Val Ile Gln Val Gly Met Ala Leu His Thr Pro Leu Tyr
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Phe Phe Ile Ser Val Leu Ser Phe Leu Glu Ile Cys Tyr Thr Thr Thr
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Thr Ile Pro Lys Met Leu Ser Cys Leu Ile Ser Glu Gln Lys Ser Ile
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Ser Val Ala Gly Cys Leu Leu Gln Met Tyr Phe Phe His Ser Leu Gly
100 105 110

Ile Thr Glu Ser Cys Val Leu Thr Ala Met Ala Ile Asp Arg Tyr Ile
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130 135 140

Cys Ile Gln Leu Thr Val Gly Ser Cys Phe Cys Gly Phe Leu Leu Val
145 150 155 160

Leu Pro Glu Ile Ala Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn
165 170 175

Gln Ile His Gln Ile Phe Cys Asp Phe Thr Pro Val Leu Ser Leu Ala
180 185 190

Cys Thr Asp Thr Phe Leu Val Val Ile Val Asp Ala Ile His Ala Ala
195 200 205

Glu Ile Val Ala Ser Phe Leu Val Ile Ala Leu Ser Tyr Ile Arg Ile
210 215 220

Ile Ile Val Ile Leu Gly Met His Ser Ala Glu Gly His His Lys Ala
225 230 235 240

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245 250 255

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Trp Asp Thr Ala Ile Ala Val Thr Phe Val Ile Leu Ala Pro Phe Phe
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 Gln Ile Leu Leu Phe Phe Ile Phe Leu Leu Val Tyr Leu Thr Thr Leu
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 His Thr Pro Met Tyr Phe Phe Leu Phe Val Leu Ser Cys Ser Glu Thr
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tgc tac acc ttg gtc att gta ccc aaa atg ctt acc aac ctg cta tcc 240
 Cys Tyr Thr Leu Val Ile Val Pro Lys Met Leu Thr Asn Leu Leu Ser
 65 70 75 80

gca att cca act att tct ttc tct gga tgt gtg gtc cag ctc tat tta 288
 Ala Ile Pro Thr Ile Ser Phe Ser Gly Cys Val Val Gln Leu Tyr Leu
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 Phe Val Gly Leu Ala Cys Thr Asn Cys Phe Leu Ile Ala Val Met Gly
 100 105 110

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 Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro Leu Asn Tyr Thr Leu Ile
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 Asn Ile Leu Val Phe Ser Val Leu Leu Cys Ala Ser Asn Arg Ile Asn
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 His Phe Phe Cys Asp Ile Ser Pro Val Ile Lys Leu Gly Cys Thr Asp
 165 170 175

acc aac ctg aag gag atg gtc atc ttt ttc ctc agc att ctg gta ttg 576
 Thr Asn Leu Lys Glu Met Val Ile Phe Phe Leu Ser Ile Leu Val Leu
 180 185 190

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 Thr Ile Leu Lys Ile Ser Ser Val Glu Gly Gln Cys Lys Ala Phe Ala
 210 215 220

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 Thr Cys Ala Ser His Leu Thr Val Val Val His Tyr Gly Cys Ala
 225 230 235 240

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 Arg Leu Val Ala Val Thr Tyr Thr Val Ile Thr Pro Leu Leu Asn Pro
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ctt gtc tat aca ctg aga aat aaa gaa gta aag atg gct ctg aga aag 864
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Met Ala Asn Thr Thr Ile Met Thr Val Ile His Leu Asp Arg Ala Leu
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His Thr Pro Met Tyr Phe Phe Leu Phe Val Leu Ser Cys Ser Glu Thr
 50 55 60

Cys Tyr Thr Leu Val Ile Val Pro Lys Met Leu Thr Asn Leu Leu Ser
 65 70 75 80

Ala Ile Pro Thr Ile Ser Phe Ser Gly Cys Val Val Gln Leu Tyr Leu
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Phe Val Gly Leu Ala Cys Thr Asn Cys Phe Leu Ile Ala Val Met Gly
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 130 135 140

Asn Ile Leu Val Phe Ser Val Leu Leu Cys Ala Ser Asn Arg Ile Asn
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His Phe Phe Cys Asp Ile Ser Pro Val Ile Lys Leu Gly Cys Thr Asp
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 180 185 190

Leu Val Pro Leu Val Leu Ile Phe Ile Ser Tyr Ile Phe Ile Val Ser
 195 200 205

Thr Ile Leu Lys Ile Ser Ser Val Glu Gly Gln Cys Lys Ala Phe Ala
 210 215 220

Thr Cys Ala Ser His Leu Thr Val Val Val His Tyr Gly Cys Ala
 225 230 235 240

Ser Phe Ile Tyr Leu Arg Pro Thr Ser Leu Tyr Ser Ser Asp Lys Asp
 245 250 255

Arg Leu Val Ala Val Thr Tyr Thr Val Ile Thr Pro Leu Leu Asn Pro
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Ile Tyr Leu Met Thr Val Leu Gly Asn Leu Leu Ile Phe Leu Val Val	
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Cys Leu Asp Ser Arg Leu His Thr Pro Met Tyr His Phe Val Ser Ile	
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Leu Ala Asn Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ser Gly Cys	
85 90 95	
ctc ctg cag atc tat ttc ttt cac tcc ctt gga gcg act gag tgc tat	2372
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Val Cys Leu Asp Ser Arg Leu His Thr Pro Met Tyr His Phe Val Ser
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Ile Leu Ser Phe Ser Glu Leu Gly Tyr Thr Ala Ala Thr Ile Pro Lys
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Met Leu Ala Asn Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ser Gly
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Cys Leu Leu Gln Ile Tyr Phe Phe His Ser Leu Gly Ala Thr Glu Cys
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Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg
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Pro Leu His Tyr Pro Thr Leu Met Thr Pro Thr Leu Cys Ala Glu Ile
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Ser Leu Ile Ser Arg Leu Pro Phe Cys Gly Pro Asn Arg Ile Gln His
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Val Phe Cys Asp Phe Pro Pro Val Leu Ser Leu Ala Cys Thr Asp Thr
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Ser Ile Asn Val Leu Val Asp Phe Val Ile Asn Ser Cys Lys Ile Leu
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Ala Thr Phe Leu Leu Ile Leu Cys Ser Tyr Val Gln Ile Ile Cys Thr
 210 215 220

16U 200 PCT FINAL.ST25

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<211> 848

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Gly Phe Thr Thr Gly Thr Leu Gln Pro Leu Ala Phe Leu Gly Thr			
20	25	30	
cta tgc atc tat ctc ctc aca ctt gca ggg aac att ctc atc att gtc	146		
Leu Cys Ile Tyr Leu Leu Thr Leu Ala Gly Asn Ile Leu Ile Val			
35	40	45	
ctg agg tgt ggt atg tca gca cca cag tgc cca tgc tgc aca cct	194		
Leu Arg Cys Gly Met Ser Ala Pro Gln Cys Pro Cys Cys Thr Pro			
50	55	60	
tgc tcc aag ggt gtt cac ccg tct cat cag ctg tat gct tta ttc agc	242		
Cys Ser Lys Gly Val His Pro Ser His Gln Leu Tyr Ala Leu Phe Ser			
65	70	75	
tat gtc ttt cat tcc tta ggg atg act gag tgc tac ctg ctg ggt gtc	290		
Tyr Val Phe His Ser Leu Gly Met Thr Glu Cys Tyr Leu Leu Gly Val			
80	85	90	95
atg gca ctg gat agc tac ctt atc atc tgc cac cca ctc cac tac cac	338		
Met Ala Leu Asp Ser Tyr Leu Ile Ile Cys His Pro Leu His Tyr His			
100	105	110	
gca ctc atg agc aga cag gta cag tta cga cta gct ggg gcc agt tgg	386		
Ala Leu Met Ser Arg Gln Val Gln Leu Arg Leu Ala Gly Ala Ser Trp			
115	120	125	
gtg gct ggc ttc tca gct gca ctt gtg cca gcc acc ctc act gcc act	434		
Val Ala Gly Phe Ser Ala Ala Leu Val Pro Ala Thr Leu Thr Ala Thr			
130	135	140	
ctg ccc ttc tgc ttg aaa gag gtg gcc cat tac ttt tgt gac ttg gca	482		
Leu Pro Phe Cys Leu Lys Glu Val Ala His Tyr Phe Cys Asp Leu Ala			
145	150	155	
cca cta atg cgg ttg gca tgt gtg gac aca agc tgg cat gct agg gcc	530		
Pro Leu Met Arg Leu Ala Cys Val Asp Thr Ser Trp His Ala Arg Ala			
160	165	170	175
cat ggc aca gtg att ggt gtg gcc act ggt tgc aac ttt gtg ctc att	578		
His Gly Thr Val Ile Gly Val Ala Thr Gly Cys Asn Phe Val Leu Ile			
180	185	190	
ttg gga ctc tat gga ggt atc ctg aat gct gtg ctg aag cta ccc tca	626		
Leu Gly Leu Tyr Gly Gly Ile Leu Asn Ala Val Leu Lys Leu Pro Ser			
195	200	205	
gct gcc agt agt gcc aag gcc ttc tct acc tgt tcc tcc cac gta act	674		
Ala Ala Ser Ser Ala Lys Ala Phe Ser Thr Cys Ser Ser His Val Thr			
210	215	220	
gtg gtg gca cta ttc tat gct tct gcc ttc aca gta tat gtg ggc tca	722		
Val Val Ala Leu Phe Tyr Ala Ser Ala Phe Thr Val Tyr Val Gly Ser			
225	230	235	
cct ggg agt cga cct gag agc aca gac aag ctt gtt gcc ttg gtt tat	770		
Pro Gly Ser Arg Pro Glu Ser Thr Asp Lys Leu Val Ala Leu Val Tyr			
240	245	250	255
gcc ctt att acc cct ttc ctc aat cct atc atc tat agc ctt cgc aac	818		
Ala Leu Ile Thr Pro Phe Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn			
260	265	270	
aag gag ctc ctc tat tgc ttc ctc tgc tga	848		
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16U 200 PCT FINAL.ST25

<213> Homo sapiens

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35 40 45Arg Cys Gly Met Ser Ala Pro Gln Cys Pro Cys Cys Cys Thr Pro Cys
50 55 60Ser Lys Gly Val His Pro Ser His Gln Leu Tyr Ala Leu Phe Ser Tyr
65 70 75 80Val Phe His Ser Leu Gly Met Thr Glu Cys Tyr Leu Leu Gly Val Met
85 90 95Ala Leu Asp Ser Tyr Leu Ile Ile Cys His Pro Leu His Tyr His Ala
100 105 110Leu Met Ser Arg Gln Val Gln Leu Arg Leu Ala Gly Ala Ser Trp Val
115 120 125Ala Gly Phe Ser Ala Ala Leu Val Pro Ala Thr Leu Thr Ala Thr Leu
130 135 140Pro Phe Cys Leu Lys Glu Val Ala His Tyr Phe Cys Asp Leu Ala Pro
145 150 155 160Leu Met Arg Leu Ala Cys Val Asp Thr Ser Trp His Ala Arg Ala His
165 170 175Gly Thr Val Ile Gly Val Ala Thr Gly Cys Asn Phe Val Leu Ile Leu
180 185 190Gly Leu Tyr Gly Gly Ile Leu Asn Ala Val Leu Lys Leu Pro Ser Ala
195 200 205Ala Ser Ser Ala Lys Ala Phe Ser Thr Cys Ser Ser His Val Thr Val
210 215 220Val Ala Leu Phe Tyr Ala Ser Ala Phe Thr Val Tyr Val Gly Ser Pro
225 230 235 240Gly Ser Arg Pro Glu Ser Thr Asp Lys Leu Val Ala Leu Val Tyr Ala
245 250 255Leu Ile Thr Pro Phe Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys
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48

cag ctg gcc ctc ttt gta gtt ttt ctt ttt ctg tat cta gtc att ctt
Gln Leu Ala Leu Phe Val Val Phe Leu Phe Leu Tyr Leu Val Ile Leu
20 25 30

96

agt ggc aat gtc acc att atc agt gtc atc cac ctg gat aaa agc ctc
Ser Gly Asn Val Thr Ile Ile Ser Val Ile His Leu Asp Lys Ser Leu
35 40 45

144

cac aca cca atg tac ttc ttc ctt ggc att ctc tca aca tct gag acc
His Thr Pro Met Tyr Phe Phe Leu Gly Ile Leu Ser Thr Ser Glu Thr
50 55 60

192

ttc tac acc ttt gtc att cta ccc aag atg ctc atc aat cta ctt tct
Phe Tyr Thr Phe Val Ile Leu Pro Lys Met Leu Ile Asn Leu Leu Ser
65 70 75 80

240

gtg gcc agg aca atc tcc aac tgt tgt gct ctt caa atg ttc ttc
Val Ala Arg Thr Ile Ser Phe Asn Cys Cys Ala Leu Gln Met Phe Phe
85 90 95

288

ttc ctt ggt ttt gcc att acc aac tgc ctg cta ttg ggt gtg atg ggt
Phe Leu Gly Phe Ala Ile Thr Asn Cys Leu Leu Gly Val Met Gly

336

16U 200 PCT FINAL.ST25

100	105	110	
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atg agc tgg cag gtg tgt gga aaa ctg gca gct gcc tgt gca att ggt Met Ser Trp Gln Val Cys Gly Lys Leu Ala Ala Cys Ala Ile Gly 130 135 140			432
ggc ttc ttg gcc tct ctt aca gta gta aat tta gtt ttc agc ctc cct Gly Phe Leu Ala Ser Leu Thr Val Val Asn Leu Val Phe Ser Leu Pro 145 150 155 160			480
ttt tgt agc gcc aac aaa gtc aat cat tac ttc tgt gac atc tca gca Phe Cys Ser Ala Asn Lys Val Asn His Tyr Phe Cys Asp Ile Ser Ala 165 170 175			528
gtc att ctt ctg gct tgt acc aac aca gat gtt aac gaa ttt gtg ata Val Ile Leu Leu Ala Cys Thr Asn Thr Asp Val Asn Glu Phe Val Ile 180 185 190			576
ttc att tgt gga gtt ctt gta ctt gtg gtt ccc ttt ctg ttt atc tgt Phe Ile Cys Gly Val Leu Val Val Val Pro Phe Leu Phe Ile Cys 195 200 205			624
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gag ggc aga cgg aaa gcg ttt tcc acc tgc gcc tct cac ctc agt gtt Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys Ala Ser His Leu Ser Val 225 230 235 240			720
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att gtc act cca tta cta aac ccc atg gtt tat agc ctc aga aac aag Ile Val Thr Pro Leu Leu Asn Pro Met Val Tyr Ser Leu Arg Asn Lys 275 280 285			864
gat gtc caa ctt gct atc aga aaa gtg ttg ggc aag aaa ggt att ctt Asp Val Gln Leu Ala Ile Arg Lys Val Leu Gly Lys Lys Gly Ile Leu 290 295 300			912
tct atc tct gaa atc ttc tac aca act gtt att ctg ccc aag atg ctt Ser Ile Ser Glu Ile Phe Tyr Thr Val Ile Leu Pro Lys Met Leu 305 310 315 320			960
atc aac tta ttc tct gta ttc agg aca ctc tcc ttt gtg agt tgt gcc Ile Asn Leu Phe Ser Val Phe Arg Thr Leu Ser Phe Val Ser Cys Ala 325 330 335			1008
acc caa atg ttc ttc ctc ggt ttt gct gtc act aac tgt ctg ctt Thr Gln Met Phe Phe Leu Gly Phe Ala Val Thr Asn Cys Leu Leu 340 345 350			1056
ctg gga gtg atg ggt tat gat cgt tat gct gcc atc tgt cag cct ttg Leu Gly Val Met Gly Tyr Asp Arg Tyr Ala Ala Ile Cys Gln Pro Leu 355 360 365			1104
caa tac gct ctc atg agc tgg aga gta tgt gga caa ctg ata gca Gln Tyr Ala Val Leu Met Ser Trp Arg Val Cys Gly Gln Leu Ile Ala 370 375 380			1152
act tgt att att agt ggc ttc cta ata tct ctg gtg gga aca act ttt Thr Cys Ile Ile Ser Gly Phe Leu Ile Ser Leu Val Gly Thr Thr Phe 385 390 395 400			1200
gtc ttt agc ctc cct ttc tgt ggc tcc aac aag gtc aac cac tac ttt Val Phe Ser Leu Pro Phe Cys Gly Ser Asn Lys Val Asn His Tyr Phe 405 410 415			1248
tgt gat att tca cca gtt atc cgt ctc gcc tgt gct gac agc tac atc			1296

16U 200 PCT FINAL.ST25

Cys Asp Ile Ser Pro Val Ile Arg Leu Ala Cys Ala Asp Ser Tyr Ile
420 425 430

agt gaa ctg gtc atc ttc atc ttc ggg gtc ttg gtg ctt gtt gtg ccc 1344
Ser Glu Leu Val Ile Phe Ile Phe Gly Val Leu Val Leu Val Val Pro
435 440 445

ttg ata ttt atc tgc att tcc tat ggc ttc att gtc cgc acc atc ctg 1392
Leu Ile Phe Ile Cys Ile Ser Tyr Gly Phe Ile Val Arg Thr Ile Leu
450 455 460

aag atc cca tca gct gaa ggc aaa caa aaa gcc ttc tcc acc tgt gct 1440
Lys Ile Pro Ser Ala Glu Gly Lys Gln Lys Ala Phe Ser Thr Cys Ala
465 470 475 480

tcc cat ctc att gta gtc att gtc cat tat ggt tga 1476
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485 490

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20 25 30

Ser Gly Asn Val Thr Ile Ile Ser Val Ile His Leu Asp Lys Ser Leu
35 40 45

His Thr Pro Met Tyr Phe Phe Leu Gly Ile Leu Ser Thr Ser Glu Thr
50 55 60

Phe Tyr Thr Phe Val Ile Leu Pro Lys Met Leu Ile Asn Leu Leu Ser
65 70 75 80

Val Ala Arg Thr Ile Ser Phe Asn Cys Cys Ala Leu Gln Met Phe Phe
85 90 95

Phe Leu Gly Phe Ala Ile Thr Asn Cys Leu Leu Leu Gly Val Met Gly
100 105 110

Tyr Asp Arg Tyr Ala Ala Ile Cys His Pro Leu His Tyr Pro Thr Leu
115 120 125

Met Ser Trp Gln Val Cys Gly Lys Leu Ala Ala Ala Cys Ala Ile Gly
130 135 140

Gly Phe Leu Ala Ser Leu Thr Val Val Asn Leu Val Phe Ser Leu Pro
145 150 155 160

Phe Cys Ser Ala Asn Lys Val Asn His Tyr Phe Cys Asp Ile Ser Ala
165 170 175

Val Ile Leu Leu Ala Cys Thr Asn Thr Asp Val Asn Glu Phe Val Ile
180 185 190

Phe Ile Cys Gly Val Leu Val Leu Val Val Pro Phe Leu Phe Ile Cys
195 200 205

160 200 PCT FINAL.ST25
 Val Ser Tyr Leu Cys Ile Leu Arg Thr Ile Leu Lys Ile Pro Ser Ala
 210 215 220

Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys Ala Ser His Leu Ser Val
 225 230 235 240

Val Ile Val His Tyr Gly Cys Ala Ser Phe Ile Tyr Leu Arg Pro Thr
 245 250 255

Ala Asn Tyr Val Ser Asn Lys Asp Arg Leu Val Thr Val Thr Tyr Thr
 260 265 270

Ile Val Thr Pro Leu Leu Asn Pro Met Val Tyr Ser Leu Arg Asn Lys
 275 280 285

Asp Val Gln Leu Ala Ile Arg Lys Val Leu Gly Lys Lys Gly Ile Leu
 290 295 300

Ser Ile Ser Glu Ile Phe Tyr Thr Thr Val Ile Leu Pro Lys Met Leu
 305 310 315 320

Ile Asn Leu Phe Ser Val Phe Arg Thr Leu Ser Phe Val Ser Cys Ala
 325 330 335

Thr Gln Met Phe Phe Leu Gly Phe Ala Val Thr Asn Cys Leu Leu
 340 345 350

Leu Gly Val Met Gly Tyr Asp Arg Tyr Ala Ala Ile Cys Gln Pro Leu
 355 360 365

Gln Tyr Ala Val Leu Met Ser Trp Arg Val Cys Gly Gln Leu Ile Ala
 370 375 380

Thr Cys Ile Ile Ser Gly Phe Leu Ile Ser Leu Val Gly Thr Thr Phe
 385 390 395 400

Val Phe Ser Leu Pro Phe Cys Gly Ser Asn Lys Val Asn His Tyr Phe
 405 410 415

Cys Asp Ile Ser Pro Val Ile Arg Leu Ala Cys Ala Asp Ser Tyr Ile
 420 425 430

Ser Glu Leu Val Ile Phe Ile Phe Gly Val Leu Val Leu Val Val Pro
 435 440 445

Leu Ile Phe Ile Cys Ile Ser Tyr Gly Phe Ile Val Arg Thr Ile Leu
 450 455 460

Lys Ile Pro Ser Ala Glu Gly Lys Gln Lys Ala Phe Ser Thr Cys Ala
 465 470 475 480

Ser His Leu Ile Val Val Ile Val His Tyr Gly
 485 490

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Pro Val Leu Thr Ser Trp Gln Ile Cys Ser Phe Leu Asp Phe Gln Leu
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96

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Leu Phe Cys Gly Pro Asn Lys Ile Asn His Tyr Phe Cys Asp Ile Ser
35 40 45

144

ctg ctt att cag ctt gcc tgt act gat acc tac atc agg gag cta gtc
Leu Leu Ile Gln Leu Ala Cys Thr Asp Thr Tyr Ile Arg Glu Leu Val
50 55 60

192

atc ttc att ggt gga att cta gca ctt acg gtt cct ctg att tta ttt
Ile Phe Ile Gly Gly Ile Leu Ala Leu Thr Val Pro Leu Ile Leu Phe
65 70 75 80

240

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276

16U 200 PCT FINAL.ST25

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35 40 45Leu Leu Ile Gln Leu Ala Cys Thr Asp Thr Tyr Ile Arg Glu Leu Val
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16U 200 PCT FINAL.ST25

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tactcttta ctcaataatt gtattttct taagaaatatt aaaaacatta cagtttttt	2040
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aaa atc aac ccc aaa ctg cat acc ccc atg tac ttt ttc ctc agc caa Lys Ile Asn Pro Lys Leu His Thr Pro Met Tyr Phe Phe Leu Ser Gln 55 60 65	2408
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ttg gtg aac ctt gtt gtc aaa gac aga acc att tca ttt tta gga tgc Leu Val Asn Leu Val Val Lys Asp Arg Thr Ile Ser Phe Leu Gly Cys 85 90 95	2504
gta gta caa ttc ttt ttc ttc tgt acc ttt gtg gtc act gaa tcc ttt Val Val Gln Phe Phe Phe Cys Thr Phe Val Val Thr Glu Ser Phe 100 105 110	2552
tta tta gct gtg atg gcc tat gac cgc ttc gtg gcc att tgc aac cct Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys Asn Pro 115 120 125 130	2600
ctg ctc tac aca gtt aac atg tcc cag aaa ctc tgc gtg ctg gtt Leu Leu Tyr Thr Val Asn Met Ser Gln Lys Leu Cys Val Leu Leu Val 135 140 145	2648
gtg gga tcc tat gcc tgg gga gtc tca tgt tcc ttg gaa ctg acg tgc Val Gly Ser Tyr Ala Trp Gly Val Ser Cys Ser Leu Glu Leu Thr Cys 150 155 160	2696
tct gct tta aag tta tgt ttt cat ggt ttc aac aca atc aat cac ttc Ser Ala Leu Lys Leu Cys Phe His Gly Phe Asn Thr Ile Asn His Phe 165 170 175	2744
ttc tgt gag ttc tcc tca cta ctc tcc ctt tct tgc tct gat act tac Phe Cys Glu Phe Ser Ser Leu Leu Ser Leu Ser Cys Ser Asp Thr Tyr 180 185 190	2792
atc aac cag tgg ctg cta ttc ttt ctt gcc acc ttt aat gaa atc agc Ile Asn Gln Trp Leu Leu Phe Phe Leu Ala Thr Phe Asn Glu Ile Ser 195 200 205 210	2840
aca cta ctc atc gtt ctc aca tct tat gcg ttc att gtt gta acc atc Thr Leu Leu Ile Val Leu Thr Ser Tyr Ala Phe Ile Val Val Thr Ile 215 220 225	2888
ctc aag atg cgt tca gtc agt ggg cgc cgc aaa gcc ttc tcc acc tgt Leu Lys Met Arg Ser Val Ser Gly Arg Arg Lys Ala Phe Ser Thr Cys 230 235 240	2936
gcc tcc cac ctg act gcc atc acc atc ttc cat ggc acc atc ctc ttc	2984

16U 200 PCT FINAL.ST25

Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile Leu Phe																																																																																													
245	250	Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val Lys Val		260	265	270		ctt tac tgt gtg ccc aac tcc aaa aac tcc agg cac aca gtc aaa gtg	3032	Leu Tyr Cys Val Pro Asn Ser Lys Asn Ser Arg His Thr Val Lys Val		275	280	285		gcc tct gtg ttt tac acc gtg gtg atc ccc atg ttg aat ccc ctg atc	3080	Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile		295	300	305		tac agt ctg aga aat aaa gat gtc aag gat aca gtc acc gag ata ctg	3128	Tyr Ser Leu Arg Asn Lys Asp Val Lys Asp Thr Val Thr Glu Ile Leu		310		gac acc aaa gtc ttc tct tac tga gcctgttact ttcatggagt ttgtcacaca	3182	Asp Thr Lys Val Phe Ser Tyr		tataaataaaa ttctgtccat aaatatttgat cttaaagata tctttacaaa taaacaaaagt	3242	taggggttcta caactcaacg aaatggattt tctttcaac agactaaact tagctctgtc	3302	tcttacttcc tgggaagcat cagtaatccc tctaattttt aatatttcat ttatgaaatt	3362	agtatagttt gggtagatc atagtcgtat tttttttttt aatgtgcaaa aataagttt aagaagaaat	3422	cgtaagtcaa tggatattaa ttcatgtcc ttcccttata agataccggg aataagactaa	3482	gtgcttagga aacatatgaa ttccatgtttt aatgtgcaaa aataagttt aagaagaaat	3542	agtccctcatc ttcaaggatg aaaactgtgt tgataatagg acaatgaaga agtggccatt	3602	gtgttaaggca gaaattaata tttttttttt aatgttgc aataatgtt aatgttgc aataatgtt	3662	acttagggat tttagaagga tttttttttt aatgttgc aataatgtt aatgttgc aataatgtt	3722	aaaggaaatg ggcggagttt atgagataca ttccaggaggg aaaggagttt tttttttttt	3782	aaaacaatgt gaataaaacc aatttagttaa gaatgttataa cttttttttt aatgttgc aataatgtt	3842	ttttttttttt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	3902	atgtatacgg gttttttttt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	3962	tgtttttttt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4022	gctgtatgtat aatggatcag atcttagaaa atcctatgtt cttttttttt aatgttgc aataatgtt	4082	acctggccaa cttttttttt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4142	ttttttttttt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4202	ataaaaaatgtt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4262	caaaataaaat aaaaatcagg taatcattaa tatcaagacc tttttttttt aatgttgc aataatgtt	4322	aaatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4382	ctttttttttt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4442	aatttccagg tttttttttt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4502	tctttttttt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4562	ataatttattt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4622	ctttttttttt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4682	ggaggagaata cttttttttt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4742	tacacatctg gtacttatac aatttttttt aatgttgc aataatgtt aatgttgc aataatgtt	4802	ttaaaatcgaa tactgaattt caccatcttt tttttttttt aatgttgc aataatgtt	4862	gcataaaataa ggtatattttaa taatgaggaa aatgttgc aataatgtt aatgttgc aataatgtt	4922	ttttttttttt aatgttgc aataatgtt aatgttgc aataatgtt aatgttgc aataatgtt	4982
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His Phe Phe Cys Glu Phe Ser Ser Leu Leu Ser Leu Ser Cys Ser Asp
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Thr Tyr Ile Asn Gln Trp Leu Leu Phe Phe Leu Ala Thr Phe Asn Glu
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245 16U 200 PCT FINAL.ST25
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16U 200 PCT FINAL.ST25

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Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ile
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Val Val Leu Asp Leu Leu Leu Val Ile Leu Ser Tyr Ile Phe Ile Leu
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Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ala Phe Tyr Thr Thr
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Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro
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His Val His Ile Leu Leu Ala Asn Phe Tyr Leu Leu Phe Pro Pro Met
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 305 310 315 1680

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Met	Glu	Trp	Thr	Ala	Ala	Arg	Ala	Arg	Pro	Leu	Val	Met	Thr	Leu	Asn
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Ser	Leu	Gly	Phe	Ser	Phe	Gly	His	Gly	Leu	Thr	Ala	Ala	Val	Ala	Tyr
20					25				30						

Gly	Val	Arg	Asp	Trp	Thr	Leu	Leu	Gln	Leu	Val	Val	Ser	Val	Pro	Phe
35					40				45						

Phe	Leu	Cys	Phe	Leu	Tyr	Ser	Trp	Trp	Leu	Ala	Glu	Ser	Ala	Arg	Trp
50				55					60						

Leu	Leu	Thr	Thr	Gly	Arg	Leu	Asp	Trp	Gly	Leu	Gln	Glu	Leu	Trp	Arg
65				70					75					80	

Val	Ala	Ala	Ile	Asn	Gly	Gly	Ala	Val	Gln	Asp	Thr	Leu	Thr	Pro
85					90					95				

Glu	Val	Leu	Leu	Ser	Ala	Met	Arg	Glu	Glu	Leu	Ser	Met	Gly	Gln	Pro
100					105				110						

Pro	Ala	Ser	Leu	Gly	Thr	Leu	Leu	Arg	Met	Pro	Gly	Leu	Arg	Phe	Arg
115					120					125					

Thr	Cys	Ile	Ser	Thr	Leu	Cys	Trp	Phe	Ala	Phe	Gly	Phe	Thr	Phe	Phe
130					135				140						

Gly	Leu	Ala	Leu	Asp	Leu	Gln	Ala	Leu	Gly	Ser	Asn	Ile	Phe	Leu	Leu
145					150				155					160	

Gln	Met	Phe	Ile	Gly	Val	Val	Asp	Ile	Pro	Ala	Lys	Met	Gly	Ala	Leu
165					170					175					

Leu	Leu	Leu	Ser	His	Leu	Gly	Arg	Arg	Pro	Thr	Leu	Ala	Ala	Ser	Leu
180					185					190					

Leu	Leu	Ala	Gly	Leu	Cys	Ile	Leu	Ala	Asn	Thr	Leu	Val	Pro	His	Glu
195					200					205					

Met	Gly	Ala	Leu	Arg	Ser	Ala	Leu	Ala	Val	Leu	Gly	Ley	Gly	Val
210					215					220				

Gly	Ala	Ala	Phe	Thr	Cys	Ile	Thr	Ile	Tyr	Ser	Ser	Glu	Leu	Phe	Pro
225					230				235					240	

16U 200 PCT FINAL.ST25

Thr Val Leu Arg Met Thr Ala Val Gly Leu Gly Gln Met Ala Ala Arg
 245 250 255

Gly Gly Ala Ile Leu Gly Pro Leu Val Arg Leu Leu Gly Val His Gly
 260 265 270

Pro Trp Leu Pro Leu Leu Val Tyr Gly Thr Val Pro Val Leu Ser Gly
 275 280 285

Leu Ala Ala Leu Leu Pro Glu Thr Gln Ser Leu Pro Leu Pro Asp
 290 295 300

Thr Ile Gln Asp Val Gln Asn Gln Ala Val Lys Lys Ala Thr His Gly
 305 310 315 320

Thr Leu Gly Asn Ser Val Leu Lys Ser Thr Gln Phe
 325 330

<210> 80
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ggc tcc cag gat gcc ctg gcc ccc ttg cct cca cct gct ccc cag aat	99
Gly Ser Gln Asp Ala Leu Ala Pro Leu Pro Pro Ala Pro Gln Asn	
15 20 25 30	
ccc tcc acc cac tct tgg gac cct ttg tgt gga tct ctg cct tgg ggc	147
Pro Ser Thr His Ser Trp Asp Pro Leu Cys Gly Ser Leu Pro Trp Gly	
35 40 45	
ctc agc tgt ctt ctg gct ctg cag cat gtc ttg gtc atg gct tct ctg	195
Leu Ser Cys Leu Leu Ala Leu Gln His Val Leu Val Met Ala Ser Leu	
50 55 60	
ctc tgt gtc tcc cac ctg ctc ctg ctt tgc agt ctc tcc cca gga gga	243
Leu Cys Val Ser His Leu Leu Leu Cys Ser Leu Ser Pro Gly Gly	
65 70 75	
ctc tct tac tcc cct tct cag ctc ctg gcc tcc agc ttc ttt tca tgt	291
Leu Ser Tyr Ser Pro Ser Gln Leu Leu Ala Ser Ser Phe Phe Ser Cys	
80 85 90	
ggc atg tct acc atc ctg caa act tgg atg ggc agc agg ctg cct ctt	339
Gly Met Ser Thr Ile Leu Gln Thr Trp Met Gly Ser Arg Leu Pro Leu	
95 100 105 110	
gtc cag gct cca tcc tta gag ttc ctt atc cct gct ctg gtg ctg acc	387
Val Gln Ala Pro Ser Leu Glu Phe Leu Ile Pro Ala Leu Val Leu Thr	
115 120 125	
agc cag aag cta ccc cgg gcc atc cag aca cct gga aac tcc tcc ctc	435
Ser Gln Lys Leu Pro Arg Ala Ile Gln Thr Pro Gly Asn Ser Ser Leu	
130 135 140	
atg ctg cac ctt tgt agg gga cct agc tgc cat ggc ctg ggg cac tgg	483
Met Leu His Leu Cys Arg Gly Pro Ser Cys His Gly Leu Gly His Trp	
145 150 155	
aac act tct ctc cag gag gtg tcc ggg gca gtg gta gta tct ggg ctg	531
Asn Thr Ser Leu Gln Glu Val Ser Gly Ala Val Val Val Ser Gly Leu	

160	165	170	16U 200 PCT FINAL.ST25
ctg cag ggc atg atg ggg ctg ctg ggg agt ccc ggc cac gtg ttc ccc Leu Gln Gly Met Met Gly Leu Leu Gly Ser Pro Gly His Val Phe Pro 175 180 185 190			579
cac tgt ggg ccc ctg gtg ctg gct ccc agc ctg gtt gtg gca ggg ctc His Cys Gly Pro Leu Val Leu Ala Pro Ser Leu Val Val Ala Gly Leu 195 200 205			627
tct gcc cac agg gag gta gcc cag ttc tgc ttc aca cac tgg ggg ttg Ser Ala His Arg Glu Val Ala Gln Phe Cys Phe Thr His Trp Gly Leu 210 215 220			675
gcc ttg ctg tac gtg agt cct gag agg cgt ggg atg gtg ccc agt ggg Ala Leu Tyr Val Ser Pro Glu Arg Arg Gly Met Val Pro Ser Gly 225 230 235			723
ggg gta tgg ggg gac taggggaggg cagaactgct ggtcctatca gattcagcag Gly Val Trp Gly Asp 240			778
cgactgaaat agggacatat tttatatttg gaatccaaga ctttcccttg attcatctgg			838
tctccttgaa tttcacactg tttctgctg tcccccaagg tcacttccta ttccctccat			898
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ccctgtgtgg cccgtgtctg cattgcctc ccccacctcc acatgcctgc agtcgagg			1558
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gagtgggtt ggtatggact agagggaaag aagaaggaca ggaacttaca ccgattgatt			1738
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ctttgggcta agagagtggg gaagtgaaca aatcaccacg gaactcctgt gcatgaggca			1858
ctgtatcaag gctaggcata agaaccatgc acataaaatgt ctgctctttt gggacttca			1918
tagagggaga ggcagacagt tgaaggaaaa aagtatcttt taaaaaaatg gggccaggca			1978
tgggtggctca cacctgtaat cctagcacgt gggggaggctg aggcaggcag atcactttagg			2038
cttaggaattt aagaccacgg tggccaaatcat ggtgaaaccc tggctctact aaaaatacaa			2098
aaat tagctg ggcacatgg tggcaccta taattccacg tactcaggag gctgaggcag			2158
gagaatcgct tgacccctggg aggcagaggt tgctgtgagc cgagaccgca ccactgcact			2218
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<210> 81
 <211> 243
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<400> 81

16U 200 PCT FINAL.ST25

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Gln Asp Ala Leu Ala Pro Leu Pro Pro Ala Pro Gln Asn Pro Ser
 20 25 30

Thr His Ser Trp Asp Pro Leu Cys Gly Ser Leu Pro Trp Gly Leu Ser
 35 40 45

Cys Leu Leu Ala Leu Gln His Val Leu Val Met Ala Ser Leu Leu Cys
 50 55 60

Val Ser His Leu Leu Leu Cys Ser Leu Ser Pro Gly Gly Leu Ser
 65 70 75 80

Tyr Ser Pro Ser Gln Leu Leu Ala Ser Ser Phe Phe Ser Cys Gly Met
 85 90 95

Ser Thr Ile Leu Gln Thr Trp Met Gly Ser Arg Leu Pro Leu Val Gln
 100 105 110

Ala Pro Ser Leu Glu Phe Leu Ile Pro Ala Leu Val Leu Thr Ser Gln
 115 120 125

Lys Leu Pro Arg Ala Ile Gln Thr Pro Gly Asn Ser Ser Leu Met Leu
 130 135 140

His Leu Cys Arg Gly Pro Ser Cys His Gly Leu Gly His Trp Asn Thr
 145 150 155 160

Ser Leu Gln Glu Val Ser Gly Ala Val Val Val Ser Gly Leu Leu Gln
 165 170 175

Gly Met Met Gly Leu Leu Gly Ser Pro Gly His Val Phe Pro His Cys
 180 185 190

Gly Pro Leu Val Leu Ala Pro Ser Leu Val Val Ala Gly Leu Ser Ala
 195 200 205

His Arg Glu Val Ala Gln Phe Cys Phe Thr His Trp Gly Leu Ala Leu
 210 215 220

Leu Tyr Val Ser Pro Glu Arg Arg Gly Met Val Pro Ser Gly Gly Val
 225 230 235 240

Trp Gly Asp

<210> 82
 <211> 1865
 <212> DNA
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<400> 82
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 ttgtaatcca tatagaattt taaaactctt caattaca atg gat aga ggg gag aaa 116

16U 200 PCT FINAL.ST25
 Met Asp Arg Gly Glu Lys
 1 5

ata cag ctc aag aga gtg ttt gga tat tgg tgg ggc aca agt ttt ttg 164
 Ile Gln Leu Lys Arg Val Phe Gly Tyr Trp Trp Gly Thr Ser Phe Leu
 10 15 20

ctt att aat atc att ggt gca gga att ttt gtg tcc ccc aaa ggt gtg 212
 Leu Ile Asn Ile Ile Gly Ala Gly Ile Phe Val Ser Pro Lys Gly Val
 25 30 35

ttg gca tac tct tgc atg aac gtg gga gtc tcc ctg tgc gtt tgg gct 260
 Leu Ala Tyr Ser Cys Met Asn Val Gly Val Ser Leu Cys Val Trp Ala
 40 45 50

ggc tgt gcc ata ctg gcc atg aca tca act ctt tgc tct gca gag ata 308
 Gly Cys Ala Ile Leu Ala Met Thr Ser Thr Leu Cys Ser Ala Glu Ile
 55 60 65 70

agt ata agc ttc cca tgc agt gga gct caa tac tat ttt ctc aag aga 356
 Ser Ile Ser Phe Pro Cys Ser Gly Ala Gln Tyr Tyr Phe Leu Lys Arg
 75 80 85

tac ttt ggc tcc acg gtt gct ttt ttg aat ctc tgg aca tcc ttg ttt 404
 Tyr Phe Gly Ser Thr Val Ala Phe Leu Asn Leu Trp Thr Ser Leu Phe
 90 95 100

ctg ggg tca ggg gta gtt gct ggc caa gct ctg ctc ctt gct gag tac 452
 Leu Gly Ser Gly Val Val Ala Gly Gln Ala Leu Leu Leu Ala Glu Tyr
 105 110 115

agc atc cag cct ttt tcc agc tgc tct gtc cca aag ctg cct aag 500
 Ser Ile Gln Pro Phe Pro Ser Cys Ser Val Pro Lys Leu Pro Lys
 120 125 130

aaa tgt ctg gca ttg gcc atg ttg tgg att gta gga att ctg act tct 548
 Lys Cys Leu Ala Leu Ala Met Leu Trp Ile Val Gly Ile Leu Thr Ser
 135 140 145 150

cgt ggt gtg aaa gaa gta act tgg ctt cag ata gct agc tca gtg ctg 596
 Arg Gly Val Lys Glu Val Thr Trp Leu Gln Ile Ala Ser Ser Val Leu
 155 160 165

/

aaa gtg tcc ata ctt agc ttc att tcc cta act gga gta gtg ttc ctg 644
 Lys Val Ser Ile Leu Ser Phe Ile Ser Leu Thr Gly Val Val Phe Leu
 170 175 180

ata aga ggg aaa aag gag aat gta gaa cga ttt cag aat gct ttt gat 692
 Ile Arg Gly Lys Lys Glu Asn Val Glu Arg Phe Gln Asn Ala Phe Asp
 185 190 195

gct gaa ctt cca gat atc tct cac ctt ata caa gcc atc ttc caa gga 740
 Ala Glu Leu Pro Asp Ile Ser His Leu Ile Gln Ala Ile Phe Gln Gly
 200 205 210

tat ttt gca tat tca ggc ggg gca tgc ttt aca ctt ata gca ggg gag 788
 Tyr Phe Ala Tyr Ser Gly Gly Ala Cys Phe Thr Leu Ile Ala Gly Glu
 215 220 225 230

ctg aag aag ccc aga aca aca att ccc aaa tgc ata ttt act gcg tta 836
 Leu Lys Lys Pro Arg Thr Thr Ile Pro Lys Cys Ile Phe Thr Ala Leu
 235 240 245

cct ctg gtg act gta gtt tat tta ctg gtt aac att tcc tat ctg act 884
 Pro Leu Val Thr Val Val Tyr Leu Leu Val Asn Ile Ser Tyr Leu Thr
 250 255 260

gtt ctg aca ccc agg gaa att ctc tct tca gat gct gta gct atc aca 932
 Val Leu Thr Pro Arg Glu Ile Leu Ser Ser Asp Ala Val Ala Ile Thr
 265 270 275

tgg gct gat cga gct ttt ccc tca tta gca tgg att atg cct ttt gct 980
 Trp Ala Asp Arg Ala Phe Pro Ser Leu Ala Trp Ile Met Pro Phe Ala
 280 285 290

att tct acc tca tta ttt agc aac ctt ctg att tct ata ttt aaa tca 1028
 Ile Ser Thr Ser Leu Phe Ser Asn Leu Leu Ile Ser Ile Phe Lys Ser
 295 300 305 310

<210> 83
<211> 470
<212> PRT
<213> Name, caption

400 83

Met Asp Arg Gly Glu Lys Ile Gln Leu Lys Arg Val Phe Gly Tyr Trp
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Trp Gly Thr Ser Phe Leu Leu Ile Asn Ile Ile Gly Ala Gly Ile Phe
20 25 30

Val Ser Pro Lys Gly Val Leu Ala Tyr Ser Cys Met Asn Val Gly Val
35 40 45

Ser Leu Cys Val Trp Ala Gly Cys Ala Ile Leu Ala Met Thr Ser Thr
50 55 60

Leu Cys Ser Ala Glu Ile Ser Ile Ser Phe Pro Cys Ser Gly Ala Gln
65 70 75 80

16U 200 PCT FINAL.ST25

Tyr Tyr Phe Leu Lys Arg Tyr Phe Gly Ser Thr Val Ala Phe Leu Asn
85 90 95

Leu Trp Thr Ser Leu Phe Leu Gly Ser Gly Val Val Ala Gly Gln Ala
100 105 110

Leu Leu Leu Ala Glu Tyr Ser Ile Gln Pro Phe Phe Pro Ser Cys Ser
115 120 125

Val Pro Lys Leu Pro Lys Lys Cys Leu Ala Leu Ala Met Leu Trp Ile
130 135 140

Val Gly Ile Leu Thr Ser Arg Gly Val Lys Glu Val Thr Trp Leu Gln
145 150 155 160

Ile Ala Ser Ser Val Leu Lys Val Ser Ile Leu Ser Phe Ile Ser Leu
165 170 175

Thr Gly Val Val Phe Leu Ile Arg Gly Lys Lys Glu Asn Val Glu Arg
180 185 190

Phe Gln Asn Ala Phe Asp Ala Glu Leu Pro Asp Ile Ser His Leu Ile
195 200 205

Gln Ala Ile Phe Gln Gly Tyr Phe Ala Tyr Ser Gly Gly Ala Cys Phe
210 215 220

Thr Leu Ile Ala Gly Glu Leu Lys Lys Pro Arg Thr Thr Ile Pro Lys
225 230 235 240

Cys Ile Phe Thr Ala Leu Pro Leu Val Thr Val Val Tyr Leu Leu Val
245 250 255

Asn Ile Ser Tyr Leu Thr Val Leu Thr Pro Arg Glu Ile Leu Ser Ser
260 265 270

Asp Ala Val Ala Ile Thr Trp Ala Asp Arg Ala Phe Pro Ser Leu Ala
275 280 285

Trp Ile Met Pro Phe Ala Ile Ser Thr Ser Leu Phe Ser Asn Leu Leu
290 295 300

Ile Ser Ile Phe Lys Ser Ser Arg Pro Ile Tyr Leu Ala Ser Gln Glu
305 310 315 320

Gly Gln Leu Pro Leu Leu Phe Asn Thr Leu Asn Ser His Ser Ser Pro
325 330 335

Phe Thr Ala Val Leu Leu Val Thr Leu Gly Ser Leu Ala Ile Ile
340 345 350

Leu Thr Ser Leu Ile Asp Leu Ile Asn Tyr Ile Phe Phe Thr Gly Ser
355 360 365

Leu Trp Ser Ile Leu Leu Met Ile Gly Ile Leu Arg Arg Arg Tyr Gln
370 375 380

Glu Pro Asn Leu Ser Ile Pro Tyr Lys Val Phe Leu Ser Phe Pro Leu
385 390 395 400

16U 200 PCT FINAL.ST25

Ala Thr Ile Val Ile Asp Val Gly Leu Val Val Ile Pro Leu Val Lys
 405 410 415

Ser Pro Asn Val His Tyr Val Tyr Val Leu Leu Leu Val Leu Ser Gly
 420 425 430

Leu Leu Phe Tyr Ile Pro Leu Ile His Phe Lys Ile Arg Leu Ala Trp
 435 440 445

Phe Glu Lys Met Thr Cys Tyr Leu Gln Leu Leu Phe Asn Ile Cys Leu
 450 455 460

Pro Asp Val Ser Glu Glu
 465 470

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 <211> 1046
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 <222> (319)..(852)
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 tgaagtcaac tttttagatc ttcaactaagt acacgttgggt gtctgaagat tcacacgagt 180
 gcctctggta atcattttct tcagggaaatc acagtctctc ctctcagcaa agcatccact 240
 gtactgaact ttgcttttgg aaacatcttc ttccctgagac ctcgttggaa gaaactctct 300
 ggtgtcatac tttccaaat atg gag gtg aag aac ttt gca gtt tgg gat tat 351
 Met Glu Val Lys Asn Phe Ala Val Trp Asp Tyr
 1 5 10

gtt gta ttt gca gcc ctc ttt ttc att tcc tct gga att ggg gtg ttc 399
 Val Val Phe Ala Ala Leu Phe Phe Ile Ser Ser Gly Ile Gly Val Phe
 15 20 25

ttt gcc att aag gag aga aaa aag gca act tcc cga gag ttc ctg gtt 447
 Phe Ala Ile Lys Glu Arg Lys Ala Thr Ser Arg Glu Phe Leu Val
 30 35 40

ggg gga agg caa atg agc ttt ggc cct gtc ggc ttg tct ctg aca gcc 495
 Gly Arg Gln Met Ser Phe Gly Pro Val Gly Leu Ser Leu Thr Ala
 45 50 55

agc ttc atg tca gct acg gtc ctg ggg acc cct tct gaa gtc tac 543
 Ser Phe Met Ser Ala Val Thr Val Leu Gly Thr Pro Ser Glu Val Tyr
 60 65 70 75

cgc ttt ggg gca tcc cta gtc ttc att gct tac cta ttt gtc 591
 Arg Phe Gly Ala Ser Phe Leu Val Phe Phe Ile Ala Tyr Leu Phe Val
 80 85 90

atc ctc tta aca tca gag ctc ttt ctc cct gtg ttc tac aga tct ggt 639
 Ile Leu Leu Thr Ser Glu Leu Phe Leu Pro Val Phe Tyr Arg Ser Gly
 95 100 105

atc acc agc act tat gag tac tta caa cta cga ttc aac aaa cca gtt 687
 Ile Thr Ser Thr Tyr Glu Tyr Leu Gln Leu Arg Phe Asn Lys Pro Val
 110 115 120

cgc tat gct gcc acg gtc atc tac att gta cag acg att ctc tac aca 735
 Arg Tyr Ala Ala Thr Val Ile Tyr Ile Val Gln Thr Ile Leu Tyr Thr
 125 130 135

16U 200 PCT FINAL.ST25
 gga gtg gtg gtg tat gct cct gcc ctg gca ctc aat caa gtg act ggg 783
 Gly Val Val Val Tyr Ala Pro Ala Leu Ala Leu Asn Gln Val Thr Gly
 140 145 150 155

ttt gat ctc tgg ggc tct gtg ttt gca aca gga att gtt tgc aca ttc 831
 Phe Asp Leu Trp Gly Ser Val Phe Ala Thr Gly Ile Val Cys Thr Phe
 160 165 170

tac tgt acc ctg gta tgt atc tagctgtgaa gaagtattta acactaccc 882
 Tyr Cys Thr Leu Val Cys Ile
 175

ctaataatggg ataaggggcaa atctccagca ataggcatct aattatacgca gaattcgta 942

ttccaaaatt aagcagaagt atgtcggctt atctgtcaca gtttcctgag gaaggtgctg 1002

ttgtttaaca ttctttcat taccaacctt taggagaatt taat 1046

<210> 85

<211> 178

<212> PRT

<213> Homo sapiens

<400> 85

Met Glu Val Lys Asn Phe Ala Val Trp Asp Tyr Val Val Phe Ala Ala
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Leu Phe Phe Ile Ser Ser Gly Ile Gly Val Phe Phe Ala Ile Lys Glu
 20 25 30

Arg Lys Lys Ala Thr Ser Arg Glu Phe Leu Val Gly Arg Gln Met
 35 40 45

Ser Phe Gly Pro Val Gly Leu Ser Leu Thr Ala Ser Phe Met Ser Ala
 50 55 60

Val Thr Val Leu Gly Thr Pro Ser Glu Val Tyr Arg Phe Gly Ala Ser
 65 70 75 80

Phe Leu Val Phe Phe Ile Ala Tyr Leu Phe Val Ile Leu Leu Thr Ser
 85 90 95

Glu Leu Phe Leu Pro Val Phe Tyr Arg Ser Gly Ile Thr Ser Thr Tyr
 100 105 110

Glu Tyr Leu Gln Leu Arg Phe Asn Lys Pro Val Arg Tyr Ala Ala Thr
 115 120 125

Val Ile Tyr Ile Val Gln Thr Ile Leu Tyr Thr Gly Val Val Val Tyr
 130 135 140

Ala Pro Ala Leu Ala Leu Asn Gln Val Thr Gly Phe Asp Leu Trp Gly
 145 150 155 160

Ser Val Phe Ala Thr Gly Ile Val Cys Thr Phe Tyr Cys Thr Leu Val
 165 170 175

Cys Ile

<210> 86

<211> 4751

<212> DNA

<213> Homo sapiens

16U 200 PCT FINAL.ST25

<220> CDS
 <221> (382)..(1929)
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 ggcgcctccg cccagtcgc tccccggcccc accgaagcgc ggatcgcgca gcctggggcc 180
 cgggaagggg ccactgcgca gggacgcggc tcggcgggtg cgccccgggg gcatgtccgc 240
 gcgctaccgc cagggctgca gtggtcccg cgaggccctg gcaaccacca ttctacttt 300
 ttgtctatg agtttacta ccctaaggac ctcacatggc gagtaacca tggccaggt 360
 agcgttctat gccaaccttg a atg cca tca gga agt cac tgg aca gca aac 411
 Met Pro Ser Gly Ser His Trp Thr Ala Asn
 1 5 10
 tct tcc aag atc ata act tgg ctg ttg gag caa cct gga aaa gaa gaa 459
 Ser Ser Lys Ile Ile Thr Trp Leu Leu Glu Gln Pro Gly Lys Glu Glu
 15 20 25
 aaa aga aaa acc atg gca aaa gta aat aga gct cgg tct acc tcc cct 507
 Lys Arg Lys Thr Met Ala Lys Val Asn Arg Ala Arg Ser Thr Ser Pro
 30 35 40
 cca gat gga ggc tgg ggc tgg atg att gtg gct ggc tgg ttc ctt gtt 555
 Pro Asp Gly Gly Trp Gly Trp Met Ile Val Ala Gly Cys Phe Leu Val
 45 50 55
 acc atc tgc aca cgg gca gtc aca aga tgt atc tca att ttt ttt gtt 603
 Thr Ile Cys Thr Arg Ala Val Thr Arg Cys Ile Ser Ile Phe Phe Val
 60 65 70
 gag ttc cag aca tac ttc act cag gat tac gca caa acg gca tgg atc 651
 Glu Phe Gln Thr Tyr Phe Thr Gln Asp Tyr Ala Gln Thr Ala Trp Ile
 75 80 85 90
 cat tcc att gta gat tgt gtg acc atg ctc tgt gct cca ctt ggg agt 699
 His Ser Ile Val Asp Cys Val Thr Met Leu Cys Ala Pro Leu Gly Ser
 95 100 105
 gtt gtc agt aac cat tta tcc tgt caa gtg gga atc atg ctg ggt ggc 747
 Val Val Ser Asn His Leu Ser Cys Gln Val Gly Ile Met Leu Gly Gly
 110 115 120
 ttg ctt gca tct act gga ctc atc ctg agc tca ttt gcc acg agt ctg 795
 Leu Leu Ala Ser Thr Gly Leu Ile Leu Ser Ser Phe Ala Thr Ser Leu
 125 130 135
 aag cat ctc tac ctc act ctg gga gtt ctt aca ggt ctt gga ttt gca 843
 Lys His Leu Tyr Leu Thr Leu Gly Val Leu Thr Gly Leu Gly Phe Ala
 140 145 150
 ctt tgt tac tct cca gct att gcc atg gtt ggc aag tac ttc acg aga 891
 Leu Cys Tyr Ser Pro Ala Ile Ala Met Val Gly Lys Tyr Phe Ser Arg
 155 160 165 170
 cgg aaa gcc ctt gct tat ggt atc gcc atg tca gga agt ggc att ggc 939
 Arg Lys Ala Leu Ala Tyr Gly Ile Ala Met Ser Gly Ser Gly Ile Ile
 175 180 185
 acc ttc atc ctg gct cct gtg gtt cag ctc ctt att gaa cag ttt tcc 987
 Thr Phe Ile Leu Ala Pro Val Val Gln Leu Leu Ile Glu Gln Phe Ser
 190 195 200
 tgg cgg gga gcc tta ctc att ctt ggg ggc ttt gtc ttg aat ctc tgt 1035
 Trp Arg Gly Ala Leu Leu Ile Leu Gly Gly Phe Val Leu Asn Leu Cys
 205 210 215
 gta tgt ggt gcc ttg atg agg cca att act ctt aaa gag gac cac aca 1083
 Val Cys Gly Ala Leu Met Arg Pro Ile Thr Leu Lys Glu Asp His Thr
 220 225 230
 act cca gag cag aac cat gtg tgt aga act cag aaa gaa gac att aag 1131

16U 200 PCT FINAL.ST25

Thr Pro Glu Gln Asn His Val Cys Arg Thr	Gln Lys Glu Asp Ile Lys	
235 240	245 250	
Arg Val Ser Pro Tyr Ser Ser Leu Thr	Lys Glu Trp Ala Gln Thr Cys	
255	260 265	
ctc tgt tgc tgt ttg cag caa gag tac agt ttt tta ctc atg tca gac		1179
Leu Cys Cys Leu Gln Gln Tyr Ser Phe Leu Leu Met Ser Asp		
270	275 280	
ttt gtt gtg tta gcc gtc tcc gtt ctg ttt atg gct tat ggc tgc agc		1227
Phe Val Val Leu Ala Val Ser Val Leu Phe Met Ala Tyr Gly Cys Ser		
285	290 295	
cct ctc ttt gtg tac ttg gtg cct tat gct ttg agt gtt gga gtg agt		1275
Pro Leu Phe Val Tyr Leu Val Pro Tyr Ala Leu Ser Val Gly Val Ser		
300	305 310	
cat cag caa gct gct ttt ctt atg tcc ata ctt gga gtg att gac att		1323
His Gln Gln Ala Ala Phe Leu Met Ser Ile Leu Gly Val Ile Asp Ile		
315	320 325 330	
att ggc aat atc aca ttt gga tgg ctg acc gac aga agg tgt ctg aag		1419
Ile Gly Asn Ile Thr Phe Gly Trp Leu Thr Asp Arg Arg Cys Leu Lys		
335	340 345	
aat tac cag tat gtt tgc tac ctc ttt gcc gtg gga atg gat ggg ctc		1467
Asn Tyr Gln Tyr Val Cys Tyr Leu Phe Ala Val Gly Met Asp Gly Leu		
350	355 360	
tgc tat ctc tgc ctc cca atg ctt caa agt ctc cct ctg ctc gtg cct		1515
Cys Tyr Leu Cys Leu Pro Met Leu Gln Ser Leu Pro Leu Leu Val Pro		
365	370 375	
ttc tct tgt acc ttt ggc tac ttt gat ggt gcc tat gtg act ttg atc		1563
Phe Ser Cys Thr Phe Gly Tyr Phe Asp Gly Ala Tyr Val Thr Leu Ile		
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cca gta gtg acc aca gag ata gtg ggg acc acc tct ttg tca tca gcg		1611
Pro Val Val Thr Thr Glu Ile Val Gly Thr Ser Leu Ser Ser Ala		
395	400 405 410	
ctt ggt gtg gta tac ttc ctt cac gca gtg cca tac ttg gtg agc cca		1659
Leu Gly Val Val Tyr Phe Leu His Ala Val Pro Tyr Leu Val Ser Pro		
415	420 425	
ccc atc gca gga cgg ctg gta gat acc acc ggc agc tac act gca gca		1707
Pro Ile Ala Gly Arg Leu Val Asp Thr Thr Gly Ser Tyr Thr Ala Ala		
430	435 440	
ttc ctc ctc tgt gga ttt tca atg ata ttt agt tct gtg ttg ctt ggc		1755
Phe Leu Leu Cys Gly Phe Ser Met Ile Phe Ser Ser Val Leu Leu Gly		
445	450 455	
ttt gct aga ctt ata aag aga atg aga aaa acc cag ttg cag ttc att		1803
Phe Ala Arg Leu Ile Lys Arg Met Arg Lys Thr Gln Leu Gln Phe Ile		
460	465 470	
gcc aaa gaa tct gat cct aag ctg cag cta tgg acc aat gga tca gtg		1851
Ala Lys Glu Ser Asp Pro Lys Leu Gln Leu Thr Asn Gly Ser Val		
475	480 485 490	
gct tat tct gtg gca aga gaa tta gat cag aaa cat ggg gag cct gtg		1899
Ala Tyr Ser Val Ala Arg Glu Leu Asp Gln Lys His Gly Glu Pro Val		
495	500 505	
gct aca gca gtg cct ggc tac agc ctc aca tgaccaaagg ccttgagccc		1949
Ala Thr Ala Val Pro Gly Tyr Ser Leu Thr		
510	515	
cagaatcttc aggtttgaga gaggtggggc caccagattc ttcatgtttc tgaaactttt		2009
tatTTTggca gaaggattgc cttccaagga aattattatt attgtttgt taacatatta		2069
atatttataa gggaaaacag cacataataa gggaaagctgg actagcccaag agccttctca		2129
tttgggattt gtgctcataa ctgaactcgt atcttttgtt caatggcat agctctgtaa		2189

16U 200 PCT FINAL.ST25

gaaatgtaaag gacacagctg atataattag ctgttaattag ggataatttc aaagcataac	2249
caaaggcagat gacactgggc agcagcttg ttccagtc aggccttca tgcccctcc	2309
tcagaaagaa aatggaaaca ttaacgtgt aaccttgc ccttgcgt gtttagagaag	2369
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cataaaatca catgttaata cattgcttca agaatgaaat actgacttgc tctgatagga	3569
gaaaatggta atattcata gttgtttcc aaagacaaaat ttaaatgttgc tctgttatct	3629
ccttacttag ttaagaatt tagttttgaa ccccatttgc tttgtcattt gcaattttaa	3689
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tctctactaa aaatcaaaa gattagccag gcgtgggtggc gggcgctgt agtcccagct	3869
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tcagaaatTTT taaagatTTT gtataaaaaac atttgggaga tttgacttta tacatgcata	4289
gatttgcatt ttactttccc ttttgggca gcatttttag aaaatcagta agaaaaatgt	4349
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gtctatactg ttatTTTcaa aactgagaaa ttcatggaa tgatgtatTTT tggtggatca	4469
agaacaaaat tatagtggaa taatTTTaca tcttaaatat ttcttctac tactgtaaac	4529
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16U 200 PCT FINAL.ST25

tgtatgattg ggcttttgt tcagattgta	atttcattaa tagatgaaat	atttatgcta	4649
atattttctt atttcaaaag caaaaataaaa	tgaatttatt gtcctgtgta	aaaaaaaaaa	4709
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<210> 87
 <211> 516
 <212> PRT
 <213> Homo sapiens

<400> 87

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20	25	30	

Lys Val Asn Arg Ala Arg Ser Thr Ser Pro Pro Asp Gly Gly Trp Gly			
35	40	45	

Trp Met Ile Val Ala Gly Cys Phe Leu Val Thr Ile Cys Thr Arg Ala			
50	55	60	

Val Thr Arg Cys Ile Ser Ile Phe Phe Val Glu Phe Gln Thr Tyr Phe			
65	70	75	80

Thr Gln Asp Tyr Ala Gln Thr Ala Trp Ile His Ser Ile Val Asp Cys			
85	90	95	

Val Thr Met Leu Cys Ala Pro Leu Gly Ser Val Val Ser Asn His Leu			
100	105	110	

Ser Cys Gln Val Gly Ile Met Leu Gly Gly Leu Leu Ala Ser Thr Gly			
115	120	125	

Leu Ile Leu Ser Ser Phe Ala Thr Ser Leu Lys His Leu Tyr Leu Thr			
130	135	140	

Leu Gly Val Leu Thr Gly Leu Gly Phe Ala Leu Cys Tyr Ser Pro Ala			
145	150	155	160

Ile Ala Met Val Gly Lys Tyr Phe Ser Arg Arg Lys Ala Leu Ala Tyr			
165	170	175	

Gly Ile Ala Met Ser Gly Ser Gly Ile Gly Thr Phe Ile Leu Ala Pro			
180	185	190	

Val Val Gln Leu Leu Ile Glu Gln Phe Ser Trp Arg Gly Ala Leu Leu			
195	200	205	

Ile Leu Gly Gly Phe Val Leu Asn Leu Cys Val Cys Gly Ala Leu Met			
210	215	220	

Arg Pro Ile Thr Leu Lys Glu Asp His Thr Thr Pro Glu Gln Asn His			
225	230	235	240

Val Cys Arg Thr Gln Lys Glu Asp Ile Lys Arg Val Ser Pro Tyr Ser			
245	250	255	

16U 200 PCT FINAL.ST25
Ser Leu Thr Lys Glu Trp Ala Gln Thr Cys Leu Cys Cys Cys Leu Gln
260 265 270

Gln Glu Tyr Ser Phe Leu Leu Met Ser Asp Phe Val Val Leu Ala Val
275 280 285

Ser Val Leu Phe Met Ala Tyr Gly Cys Ser Pro Leu Phe Val Tyr Leu
290 295 300

Val Pro Tyr Ala Leu Ser Val Gly Val Ser His Gln Gln Ala Ala Phe
305 310 315 320

Leu Met Ser Ile Leu Gly Val Ile Asp Ile Ile Gly Asn Ile Thr Phe
325 330 335

Gly Trp Leu Thr Asp Arg Arg Cys Leu Lys Asn Tyr Gln Tyr Val Cys
340 345 350

Tyr Leu Phe Ala Val Gly Met Asp Gly Leu Cys Tyr Leu Cys Leu Pro
355 360 365

Met Leu Gln Ser Leu Pro Leu Leu Val Pro Phe Ser Cys Thr Phe Gly
370 375 380

Tyr Phe Asp Gly Ala Tyr Val Thr Leu Ile Pro Val Val Thr Thr Glu
385 390 395 400

Ile Val Gly Thr Thr Ser Leu Ser Ser Ala Leu Gly Val Val Tyr Phe
405 410 415

Leu His Ala Val Pro Tyr Leu Val Ser Pro Pro Ile Ala Gly Arg Leu
420 425 430

Val Asp Thr Thr Gly Ser Tyr Thr Ala Ala Phe Leu Leu Cys Gly Phe
435 440 445

Ser Met Ile Phe Ser Ser Val Leu Leu Gly Phe Ala Arg Leu Ile Lys
450 455 460

Arg Met Arg Lys Thr Gln Leu Gln Phe Ile Ala Lys Glu Ser Asp Pro
465 470 475 480

Lys Leu Gln Leu Trp Thr Asn Gly Ser Val Ala Tyr Ser Val Ala Arg
485 490 495

Glu Leu Asp Gln Lys His Gly Glu Pro Val Ala Thr Ala Val Pro Gly
500 505 510

Tyr Ser Leu Thr
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<210> 88
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<213> Homo sapiens

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<222> (63)..(1760)
<223>

<400> 88

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tgc cct gcc ctc agc agg ctg gtt ccc aga ggc ttt ggg act gag atg Cys Pro Ala Leu Ser Arg Leu Val Pro Arg Gly Phe Gly Thr Glu Met 20 25 30	155
tgg act ctc ttt gcc ctt tct gga ccc ctg ttc ctg ttc cag gtg ctg Trp Thr Leu Phe Ala Leu Ser Gly Pro Leu Phe Leu Phe Gln Val Leu 35 40 45	203
act ttt atg atc tac atc gtg agc act gtg ttc tgc ggg cac ctg ggc Thr Phe Met Ile Tyr Ile Val Ser Thr Val Phe Cys Gly His Leu Gly 50 55 60	251
aag gtg gag ctg gca tcg gtg acc ctc gcg gtg gcc ttt gtc aat gtc Lys Val Glu Leu Ala Ser Val Thr Leu Ala Val Ala Phe Val Asn Val 65 70 75	299
tgc gga gtt tct gta gga gtt ggt ttg tct tcg gca tgc gac acc ttg Cys Gly Val Ser Val Gly Val Gly Leu Ser Ser Ala Cys Asp Thr Leu 80 85 90 95	347
atg tct cag agc ttc ggc agc ccc aac aag aag cac gtg ggc gtg atc Met Ser Gln Ser Phe Gly Ser Pro Asn Lys Lys His Val Gly Val Ile 100 105 110	395
ctg cag cgg ggc gcg ctg gtc ctg ctc tgc tgc ctc cct tgc tgg Leu Gln Arg Gly Ala Leu Val Leu Leu Cys Cys Leu Pro Cys Trp 115 120 125	443
gcg ctc ttc ctc aac acc cag cac atc ctg ctg ctc ttc cgg cag gac Ala Leu Phe Leu Asn Thr Gln His Ile Leu Leu Phe Arg Gln Asp 130 135 140	491
ccg gac gtg tcc agg ttg acc cag gac tat gta atg att ttc att cca Pro Asp Val Ser Arg Leu Thr Gln Asp Tyr Val Met Ile Phe Ile Pro 145 150 155	539
gga ctt ccg gtg att ttt ctt tac aat ctg ctg gca aaa tat ttg caa Gly Leu Pro Val Ile Phe Leu Tyr Asn Leu Leu Ala Lys Tyr Leu Gln 160 165 170 175	587
aat cag aag atc acc tgg ccc caa gtc ctc agt ggt gtg gtg ggc aac Asn Gln Lys Ile Thr Trp Pro Gln Val Leu Ser Gly Val Val Gly Asn 180 185 190	635
tgt gtc aac ggt gtg gcc aac tat gcc ctg gtt tct gtg ctg aac ctg Cys Val Asn Gly Val Ala Asn Tyr Ala Leu Val Ser Val Asn Leu 195 200 205	683
ggg gtc agg ggc tcc gcc tat gcc aac atc atc tcc cag ttt gca cag Gly Val Arg Gly Ser Ala Tyr Ala Asn Ile Ile Ser Gln Phe Ala Gln 210 215 220	731
acc gtc ttc ctc ctt ctc tac att gtg ctg aag aag ctg cac ctg gag Thr Val Phe Leu Leu Tyr Ile Val Leu Lys Lys Leu His Leu Glu 225 230 235	779
acg tgg gca ggt tgg tcc agc cag tgc ctg cag gac tgg ggc ccc ttc Thr Trp Ala Gly Trp Ser Ser Gln Cys Leu Gln Asp Trp Gly Pro Phe 240 245 250 255	827
ttc tcc ctg gtc ccc agc atg ctc atg atc tgt gtt gag tgg tgg Phe Ser Leu Ala Val Pro Ser Met Leu Met Ile Cys Val Glu Trp Trp 260 265 270	875
gcc tat gag atc ggg agc ttc ctc atg ggg ctg ctc agt gtg gtg gat Ala Tyr Glu Ile Gly Ser Phe Leu Met Gly Leu Leu Ser Val Val Asp 275 280 285	923
ctc tct gcc cag gct gtc atc tac gag gtg gcc act gtg acc tac atg Leu Ser Ala Gln Ala Val Ile Tyr Glu Val Ala Thr Val Thr Tyr Met 290 295 300	971
att ccc ttg ggg ctc agc atc ggg gtc tgt gtc cga gtg ggg atg gct	1019

16U 200 PCT FINAL.ST25

Ile Pro Leu Gly Leu Ser Ile Gly Val Cys Val Arg Val Gly Met Ala			
305	310	315	
ctg ggg gct gcg gat act gtg cag gcc aag cgc tcg gcc gtc tcg ggc		1067	
Leu Gly Ala Ala Asp Thr Val Gin Ala Lys Arg Ser Ala Val Ser Gly			
320	325	330	335
gtg ctc agc ata gtt ggc att tcc ctg gtc ctg ggc acc ctg ata agc		1115	
Val Leu Ser Ile Val Gly Ile Ser Leu Val Leu Gly Thr Leu Ile Ser			
340	345	350	
atc ctg aaa aat cag ctg ggg cat att ttt acc aat gat gaa gat gtc		1163	
Ile Leu Lys Asn Gln Leu Gly His Ile Phe Thr Asn Asp Glu Asp Val			
355	360	365	
att gcc ctg gtg agc cag gtc ttg ccg gtt tat agt gtc ttt cac gtg		1211	
Ile Ala Leu Val Ser Gin Val Leu Pro Val Tyr Ser Val Phe His Val			
370	375	380	
ttt gag gcc atc tgt tgt gtc tat ggc gga gtt ctg aga gga act ggg		1259	
Phe Glu Ala Ile Cys Cys Val Tyr Gly Gly Val Leu Arg Gly Thr Gly			
385	390	395	
aag cag gcc ttt ggt gcc gct gtg aat gcc atc aca tat tac atc atc		1307	
Lys Gln Ala Phe Gly Ala Ala Val Asn Ala Ile Thr Tyr Tyr Ile Ile			
400	405	410	415
ggc cta cca ctt ctg acc ttt gtg gtc aga atg aga atc		1355	
Gly Leu Pro Leu Gly Ile Leu Leu Thr Phe Val Val Arg Met Arg Ile			
420	425	430	
atg ggc ctc tgg ctg ggc atg ctg gcc tgt gtc ttc ctg gca act gct		1403	
Met Gly Leu Trp Leu Gly Met Leu Ala Cys Val Phe Leu Ala Thr Ala			
435	440	445	
gcc ttt gtt gct tat act gcc cgg ctg gac tgg aag ctt gct gca gag		1451	
Ala Phe Val Ala Tyr Thr Ala Arg Leu Asp Trp Lys Leu Ala Ala Glu			
450	455	460	
gag gct aag aaa cat tca ggc cgg cag cag cag cag aga gca gag agc		1499	
Glu Ala Lys Lys His Ser Gly Arg Gln Gln Gln Arg Ala Glu Ser			
465	470	475	
act gca acc aga cct ggg cct gag aaa gca gtc cta tct tca gtg gct		1547	
Thr Ala Thr Arg Pro Gly Pro Glu Lys Ala Val Leu Ser Ser Val Ala			
480	485	490	495
aca ggc agt tcc cct ggc att acc ttg aca acg tat tca agg tct gag		1595	
Thr Gly Ser Ser Pro Gly Ile Thr Leu Thr Tyr Ser Arg Ser Glu			
500	505	510	
tgc cac gtg gac ttc ttc agg act cca gag gag gcc cac gcc ctt tca		1643	
Cys His Val Asp Phe Arg Thr Pro Glu Glu Ala His Ala Leu Ser			
515	520	525	
gct cct acc agc aga cta tca gtg aaa cag ctg gtc atc cgc cgt ggg		1691	
Ala Pro Thr Ser Arg Leu Ser Val Lys Gln Leu Val Ile Arg Arg Gly			
530	535	540	
gct gct ctg ggg gcg gcg tca gcc aca ctg atg gtg ggg ctc acg gtc		1739	
Ala Ala Leu Gly Ala Ala Ser Ala Thr Leu Met Val Gly Leu Thr Val			
545	550	555	
agg atc cta gcc acc agg cac tagcaaagaa gcttggaaat agaaagccag		1790	
Arg Ile Leu Ala Thr Arg His			
560	565		
gagtggctgt cccaggatgt caaacacacc acggctgcc ctgaaaaac accaatgggg		1850	
tctagtgcag gtggacactt tgaaccactc ctcaaaaaaa gaactttggc tgattccttg		1910	
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16U 200 PCT FINAL.ST25

<210> 89
<211> 566
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<400> 89

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Pro Ala Leu Ser Arg Leu Val Pro Arg Gly Phe Gly Thr Glu Met Trp
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Thr Leu Phe Ala Leu Ser Gly Pro Leu Phe Leu Phe Gln Val Leu Thr
35 40 45

Phe Met Ile Tyr Ile Val Ser Thr Val Phe Cys Gly His Leu Gly Lys
50 55 60

Val Glu Leu Ala Ser Val Thr Leu Ala Val Ala Phe Val Asn Val Cys
65 70 75 80

Gly Val Ser Val Gly Val Gly Leu Ser Ser Ala Cys Asp Thr Leu Met
85 90 95

Ser Gln Ser Phe Gly Ser Pro Asn Lys Lys His Val Gly Val Ile Leu
100 105 110

Gln Arg Gly Ala Leu Val Leu Leu Cys Cys Leu Pro Cys Trp Ala
115 120 125

Leu Phe Leu Asn Thr Gln His Ile Leu Leu Leu Phe Arg Gln Asp Pro
130 135 140

Asp Val Ser Arg Leu Thr Gln Asp Tyr Val Met Ile Phe Ile Pro Gly
145 150 155 160

Leu Pro Val Ile Phe Leu Tyr Asn Leu Leu Ala Lys Tyr Leu Gln Asn
165 170 175

Gln Lys Ile Thr Trp Pro Gln Val Leu Ser Gly Val Val Gly Asn Cys
180 185 190

Val Asn Gly Val Ala Asn Tyr Ala Leu Val Ser Val Leu Asn Leu Gly
195 200 205

Val Arg Gly Ser Ala Tyr Ala Asn Ile Ile Ser Gln Phe Ala Gln Thr
210 215 220

Val Phe Leu Leu Tyr Ile Val Leu Lys Lys Leu His Leu Glu Thr
225 230 235 240

Trp Ala Gly Trp Ser Ser Gln Cys Leu Gln Asp Trp Gly Pro Phe Phe
245 250 255

Ser Leu Ala Val Pro Ser Met Leu Met Ile Cys Val Glu Trp Trp Ala
260 265 270

Tyr Glu Ile Gly Ser Phe Leu Met Gly Leu Leu Ser Val Val Asp Leu
275 280 285

16U 200 PCT FINAL.ST25

Ser Ala Gln Ala Val Ile Tyr Glu Val Ala Thr Val Thr Tyr Met Ile
290 295 300

Pro Leu Gly Leu Ser Ile Gly Val Cys Val Arg Val Gly Met Ala Leu
305 310 315 320

Gly Ala Ala Asp Thr Val Gln Ala Lys Arg Ser Ala Val Ser Gly Val
325 330 335

Leu Ser Ile Val Gly Ile Ser Leu Val Leu Gly Thr Leu Ile Ser Ile
340 345 350

Leu Lys Asn Gln Leu Gly His Ile Phe Thr Asn Asp Glu Asp Val Ile
355 360 365

Ala Leu Val Ser Gln Val Leu Pro Val Tyr Ser Val Phe His Val Phe
370 375 380

Glu Ala Ile Cys Cys Val Tyr Gly Gly Val Leu Arg Gly Thr Gly Lys
385 390 395 400

Gln Ala Phe Gly Ala Ala Val Asn Ala Ile Thr Tyr Tyr Ile Ile Gly
405 410 415

Leu Pro Leu Gly Ile Leu Leu Thr Phe Val Val Arg Met Arg Ile Met
420 425 430

Gly Leu Trp Leu Gly Met Leu Ala Cys Val Phe Leu Ala Thr Ala Ala
435 440 445

Phe Val Ala Tyr Thr Ala Arg Leu Asp Trp Lys Leu Ala Ala Glu Glu
450 455 460

Ala Lys Lys His Ser Gly Arg Gln Gln Gln Arg Ala Glu Ser Thr
465 470 475 480

Ala Thr Arg Pro Gly Pro Glu Lys Ala Val Leu Ser Ser Val Ala Thr
485 490 495

Gly Ser Ser Pro Gly Ile Thr Leu Thr Thr Tyr Ser Arg Ser Glu Cys
500 505 510

His Val Asp Phe Phe Arg Thr Pro Glu Glu Ala His Ala Leu Ser Ala
515 520 525

Pro Thr Ser Arg Leu Ser Val Lys Gln Leu Val Ile Arg Arg Gly Ala
530 535 540

Ala Leu Gly Ala Ala Ser Ala Thr Leu Met Val Gly Leu Thr Val Arg
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Ile Leu Ala Thr Arg His
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<211> 3067
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<220>

16U 200 PCT FINAL.ST25

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 <222> (36)..(2984)
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 Gly Gln Glu Gly Phe Glu Ala Ser Ser Ala Pro Arg Asn Ile Pro Ser
 10 15 20

ggg gag ctg gac aac cct gac cct ggc acc ggc ccc agc cct gat 149
 Gly Glu Leu Asp Ser Asn Pro Asp Pro Gly Thr Gly Pro Ser Pro Asp
 25 30 35

ggc ccc tca gac aca gag agc aag gaa ctg gga gta ccc aaa gac cct 197
 Gly Pro Ser Asp Thr Glu Ser Lys Glu Leu Gly Val Pro Lys Asp Pro
 40 45 50

ctg ctc ttc att cag ctg aat gag ctg ctg ggc tgg ccc cag gcg ctg 245
 Leu Leu Phe Ile Gln Leu Asn Glu Leu Leu Gly Trp Pro Gln Ala Leu
 55 60 65 70

gag tgg aga gag aca ggc agc tcc tct gca tct ctg ctc ctg gac atg 293
 Glu Trp Arg Glu Thr Gly Ser Ser Ala Ser Leu Leu Leu Asp Met
 75 80 85

gga gaa atg ccc tca ata aca ctg tct acc cac ctt cat cac agg tgg 341
 Gly Glu Met Pro Ser Ile Thr Leu Ser Thr His Leu His His Arg Trp
 90 95 100

gta ctg ttt gag gag aag ttg gag gtg gct gca ggc cgg tgg agt gcc 389
 Val Leu Phe Glu Glu Lys Leu Glu Val Ala Ala Gly Arg Trp Ser Ala
 105 110 115

ccc cac gtg ccc acc ctg gca ctg ccc agc ctc cag aag ctc cgc agc 437
 Pro His Val Pro Thr Leu Ala Leu Pro Ser Leu Gln Lys Leu Arg Ser
 120 125 130

ctg ctg gcc gag ggc ctt gta ctg ctg gac tgc cca gct cag agc ctc 485
 Leu Leu Ala Glu Gly Leu Val Leu Leu Asp Cys Pro Ala Gln Ser Leu
 135 140 145 150

ctg gag ctc gtg gag cag gtg acc agg gtg gag tcg ctg agc cca gag 533
 Leu Glu Leu Val Glu Gln Val Thr Arg Val Glu Ser Leu Ser Pro Glu
 155 160 165

ctg aga ggg cag ttg cag gcc ttg ctg ctg cag aga ccc cag cat tac 581
 Leu Arg Gly Gln Leu Gln Ala Leu Leu Leu Gln Arg Pro Gln His Tyr
 170 175 180

aac cag acc aca ggc acc agg ccc tgc tgg ggc tct act cat cca aga 629
 Asn Gln Thr Thr Gly Thr Arg Pro Cys Trp Gly Ser Thr His Pro Arg
 185 190 195

aag gct tct gac aat gag gaa gcc ccc ctg agg gaa cag tgc aac 677
 Lys Ala Ser Asp Asn Glu Glu Ala Pro Leu Arg Glu Gln Cys Gln Asn
 200 205 210

ccc ctg aga cag aag cta cct cca gga gct gag gca ggg act gtg ctg 725
 Pro Leu Arg Gln Lys Leu Pro Pro Gly Ala Glu Ala Gly Thr Val Leu
 215 220 225 230

gca ggg gag ctg ggc ttc ctg gca cag cca ctg gga gcc ttt gtt cga 773
 Ala Gly Glu Leu Gly Phe Leu Ala Gln Pro Leu Gly Ala Phe Val Arg
 235 240 245

ctg cgg aac cct gtg gta ctg ggg tcc ctt act gag gtg tcc ctc cca 821
 Leu Arg Asn Pro Val Val Leu Gly Ser Leu Thr Glu Val Ser Leu Pro
 250 255 260

agc agg ttt ttc tgc ctt ctc ctg ggc ccc tgc atg ctg gga aag ggc 869
 Ser Arg Phe Phe Cys Leu Leu Leu Gly Pro Cys Met Leu Gly Lys Gly
 265 270 275

tac cat gag atg gga cgg gca gca gct gtc ctc ctc agt gac ccg caa 917
 Tyr His Glu Met Gly Arg Ala Ala Val Leu Ser Asp Pro Gln

16U 200 PCT FINAL.ST25

280	285	290	
ttc cag tgg tca gtt cgt cggt gcc agc aac ctt cat gac ctt ctg gca Phe Gln Trp Ser Val Arg Arg Ala Ser Asn Leu His Asp Leu Leu Ala 295 300 305 310			965
gcc ctg gat gca ttc cta gag gag gtg aca gtg ctt ccc cca ggt cggt Ala Leu Asp Ala Phe Leu Glu Val Thr Val Leu Pro Pro Gly Arg 315 320 325			1013
tgg gac cca aca gcc cggt att ccc ccgt ccc aaa tgt ctg cca tct cag Trp Asp Pro Thr Ala Arg Ile Pro Pro Lys Cys Leu Pro Ser Gln 330 335 340			1061
cac aaa agg ctt ccc tcg caa cag cggt gag atc aga ggt ccc gcc gtc His Lys Arg Leu Pro Ser Gln Gln Arg Glu Ile Arg Gly Pro Ala Val 345 350 355			1109
ccg cgc ctg acc tcg gct gag gac agg cac cgc cat ggg cca cac gca Pro Arg Leu Thr Ser Ala Glu Asp Arg His Arg His Gly Pro His Ala 360 365 370			1157
cac agc ccg gag ttg cag cggt acc ggc agg ctg ttt ggg ggc ctt atc His Ser Pro Glu Leu Arg Thr Gly Arg Leu Phe Gly Gly Leu Ile 375 380 385 390			1205
cag gac gtg cgc agg aag gtc ccgt tgg tac ccc agc gat ttc ttg gac Gln Asp Val Arg Arg Lys Val Pro Trp Tyr Pro Ser Asp Phe Leu Asp 395 400 405			1253
gcc ctg cat ctc cag tgc ttc tcg gcc gta ctc tac att tac ctg gcc Ala Leu His Leu Gln Cys Phe Ser Ala Val Leu Tyr Ile Tyr Leu Ala 410 415 420			1301
act gtc act aat gcc atc act ttt ggg ggt ctg ctg gga gat gcc act Thr Val Asn Ala Ile Thr Phe Gly Gly Leu Leu Gly Asp Ala Thr 425 430 435			1349
gat ggt gcc cag gga gtg ctg gaa agt ttc ctg ggc aca gca gtg gct Asp Gly Ala Gln Gly Val Leu Glu Ser Phe Leu Gly Thr Ala Val Ala 440 445 450			1397
gga gct gcc ttc tgc ctg atg gca ggc cag ccc ctc acc att ctg agc Gly Ala Ala Phe Cys Leu Met Ala Gly Gln Pro Leu Thr Ile Leu Ser 455 460 465 470			1445
agc acg ggg cca gtg gtc ttt gag cggt ctg ctc ttc tct ttc agc Ser Thr Gly Pro Val Leu Val Phe Glu Arg Leu Leu Phe Ser Phe Ser 475 480 485			1493
aga gat tac agc ctg gac tac ctg ccc ttc cgc cta tgg gtg ggc atc Arg Asp Tyr Ser Leu Asp Tyr Leu Pro Phe Arg Leu Trp Val Gly Ile 490 495 500			1541
tgg gtg gct acc ttt tgc ctg gtg ctg gtg gcc aca gag ggc agt gtg Trp Val Ala Thr Phe Cys Leu Val Leu Val Ala Thr Glu Ala Ser Val 505 510 515			1589
ctg gtg cgc tac ttc acc cgc ttc act gag gaa ggt ttc tgt gcc ctc Leu Val Arg Tyr Phe Thr Arg Phe Thr Glu Glu Gly Phe Cys Ala Leu 520 525 530			1637
atc agc ctc atc ttc atc tac gat gct gtg ggc aaa atg ctg aac ttg Ile Ser Leu Ile Phe Ile Tyr Asp Ala Val Gly Lys Met Leu Asn Leu 535 540 545 550			1685
acc cat acc tat cct atc cag aag cct ggg tcc tct gcc tac ggg tgc Thr His Thr Tyr Pro Ile Gln Lys Pro Gly Ser Ser Ala Tyr Gly Cys 555 560 565			1733
ctc tgc caa tac cca ggc cca gga gga aat gag tct caa tgg ata agg Leu Cys Gln Tyr Pro Gly Pro Gly Gly Asn Glu Ser Gln Trp Ile Arg 570 575 580			1781
aca agg cca aaa gac aga gac gac att gta agc atg gac tta ggc ctg Thr Arg Pro Lys Asp Arg Asp Ile Val Ser Met Asp Leu Gly Leu 585 590 595			1829
atc aat gca tcc ttg ctg ccgt cca cct gag tgc acc cgg cag gga ggc			1877

16U 200 PCT FINAL.ST25

Ile Asn Ala Ser Leu Leu Pro Pro Pro Glu Cys Thr Arg Gln Gly Gly	600	605	610	
cac cct cgt ggc cct ggc tgt cat aca gtc cca gac att gcc ttc ttc				1925
His Pro Arg Gly Pro Gly Cys His Thr Val Pro Asp Ile Ala Phe Phe				
615	620	625	630	
tcc ctt ctc ctc ttc ctt act tct ttc ttc ttt gct atg gcc ctc aag				1973
Ser Leu Leu Leu Phe Leu Thr Ser Phe Phe Ala Met Ala Leu Lys				
635	640	645		
tgt gta aag acc agc cgc ttc ttc ccc tct gtg gtg cgc aaa ggg ctc				2021
Cys Val Lys Thr Ser Arg Phe Phe Pro Ser Val Val Arg Lys Gly Leu				
650	655	660		
agc gac ttc tcc tca gtc ctg gcc atc ctg ctc ggc tgt ggc ctt gat				2069
Ser Asp Phe Ser Ser Val Leu Ala Ile Leu Leu Gly Cys Gly Leu Asp				
665	670	675		
gct ttc ctg ggc cta gcc aca cca aag ctc atg gta ccc aga gag ttc				2117
Ala Phe Leu Gly Leu Ala Thr Pro Lys Leu Met Val Pro Arg Glu Phe				
680	685	690		
aag ccc aca ctc cct ggg cgt ggc tgg ctg gtg tca cct ttt gga gcc				2165
Lys Pro Thr Leu Pro Gly Arg Gly Trp Leu Val Ser Pro Phe Gly Ala				
695	700	705	710	
aac ccc tgg tgg tgg agt gtg gca gct gcc ctg cct gcc ctg ctg ctg				2213
Asn Pro Trp Trp Trp Ser Val Ala Ala Leu Pro Ala Leu Leu Leu				
715	720	725		
tct atc ctc atc ttc atg gac caa cag atc aca gca gtc atc ctc aac				2261
Ser Ile Leu Ile Phe Met Asp Gln Gln Ile Thr Ala Val Ile Leu Asn				
730	735	740		
cgc atg gaa tac aga ctg cag aag gga gct ggc ttc cac ctg gac ctc				2309
Arg Met Glu Tyr Arg Leu Gln Lys Gly Ala Gly Phe His Leu Asp Leu				
745	750	755		
ttc tgt gtg gct gtg ctg atg cta ctc aca tca gcg ctt gga ctg cct				2357
Phe Cys Val Ala Val Leu Met Leu Leu Thr Ser Ala Leu Gly Leu Pro				
760	765	770		
tgg tat gtc tca gcc act gtc atc tcc ctg gct cac atg gac agt ctt				2405
Trp Tyr Val Ser Ala Thr Val Ile Ser Leu Ala His Met Asp Ser Leu				
775	780	785	790	
cgg aga gag agc aga gcc tgt gcc ccc ggg gag cgc ccc aac ttc ctg				2453
Arg Arg Glu Ser Arg Ala Cys Ala Pro Gly Glu Arg Pro Asn Phe Leu				
795	800	805		
ggt atc agg gaa cag agg ctg aca ggc ctg gtg gtg ttc atc ctt aca				2501
Gly Ile Arg Glu Gln Arg Leu Thr Gly Leu Val Val Phe Ile Leu Thr				
810	815	820		
gga gcc tcc atc ttc ctg gca cct gtg ctc aag ttc att cca atg cct				2549
Gly Ala Ser Ile Phe Leu Ala Pro Val Leu Lys Phe Ile Pro Met Pro				
825	830	835		
gtg ctc tat ggc atc ttc ctg tat atg ggg gtg gca gcg ctc agc agc				2597
Val Leu Tyr Gly Ile Phe Leu Tyr Met Gly Val Ala Ala Leu Ser Ser				
840	845	850		
att cag ttc act aat agg gtg aag ctg ttg ttg atg cca gca aaa cac				2645
Ile Gln Phe Thr Asn Arg Val Lys Leu Leu Met Pro Ala Lys His				
855	860	865	870	
cag cca gac ctg cta ctc ttg cgg cat gtg cct ctg acc agg gtc cac				2693
Gln Pro Asp Leu Leu Leu Arg His Val Pro Leu Thr Arg Val His				
875	880	885		
ctc ttc aca gcc atc cag ctt gcc tgt ctg ggg ctg ctt tgg ata atc				2741
Leu Phe Thr Ala Ile Gln Leu Ala Cys Leu Gly Leu Leu Trp Ile Ile				
890	895	900		
aag tct acc cct gca gcc atc atc ttc ccc ctc atg ttg ctg ggc ctt				2789
Lys Ser Thr Pro Ala Ala Ile Ile Phe Pro Leu Met Leu Leu Gly Leu				
905	910	915		

160 200 PCT FINAL.ST25
 gtg ggg gtc cga aag gcc ctg gag agg gtc ttc tca cca cag gaa ctc
 Val Gly Val Arg Lys Ala Leu Glu Arg Val Phe Ser Pro Gln Glu Leu
 920 925 930
 2837

ctc tgg ctg gat gag ctg atg cca gag gag gag aga agc atc cct gag
 Leu Trp Leu Asp Glu Leu Met Pro Glu Glu Arg Ser Ile Pro Glu
 935 940 945 950
 2885

aag ggg ctg gag cca gaa cac tca ttc agt gga agt gac agt gaa gat
 Lys Gly Leu Glu Pro Glu His Ser Phe Ser Gly Ser Asp Ser Glu Asp
 955 960 965
 2933

tca gag ctg atg tat cag cca aag gct cca gaa atc aac att tct gtg
 Ser Glu Leu Met Tyr Gln Pro Lys Ala Pro Glu Ile Asn Ile Ser Val
 970 975 980
 2981

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 Asn
 3034

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Thr Gly Pro Ser Pro Asp Gly Pro Ser Asp Thr Glu Ser Lys Glu Leu
 35 40 45

Gly Val Pro Lys Asp Pro Leu Leu Phe Ile Gln Leu Asn Glu Leu Leu
 50 55 60

Gly Trp Pro Gln Ala Leu Glu Trp Arg Glu Thr Gly Ser Ser Ser Ala
 65 70 75 80

Ser Leu Leu Leu Asp Met Gly Glu Met Pro Ser Ile Thr Leu Ser Thr
 85 90 95

His Leu His His Arg Trp Val Leu Phe Glu Glu Lys Leu Glu Val Ala
 100 105 110

Ala Gly Arg Trp Ser Ala Pro His Val Pro Thr Leu Ala Leu Pro Ser
 115 120 125

Leu Gln Lys Leu Arg Ser Leu Leu Ala Glu Gly Leu Val Leu Leu Asp
 130 135 140

Cys Pro Ala Gln Ser Leu Leu Glu Leu Val Glu Gln Val Thr Arg Val
 145 150 155 160

Glu Ser Leu Ser Pro Glu Leu Arg Gly Gln Leu Gln Ala Leu Leu Leu
 165 170 175

Gln Arg Pro Gln His Tyr Asn Gln Thr Thr Gly Thr Arg Pro Cys Trp
 180 185 190

Gly Ser Thr His Pro Arg Lys Ala Ser Asp Asn Glu Glu Ala Pro Leu

195 200 160 200 PCT FINAL.ST25
205

Arg Glu Gln Cys Gln Asn Pro Leu Arg Gln Lys Leu Pro Pro Gly Ala
210 215 220

Glu Ala Gly Thr Val Leu Ala Gly Glu Leu Gly Phe Leu Ala Gln Pro
225 230 235 240

Leu Gly Ala Phe Val Arg Leu Arg Asn Pro Val Val Leu Gly Ser Leu
245 250 255

Thr Glu Val Ser Leu Pro Ser Arg Phe Phe Cys Leu Leu Leu Gly Pro
260 265 270

Cys Met Leu Gly Lys Gly Tyr His Glu Met Gly Arg Ala Ala Ala Val
275 280 285

Leu Leu Ser Asp Pro Gln Phe Gln Trp Ser Val Arg Arg Ala Ser Asn
290 295 300

Leu His Asp Leu Leu Ala Ala Leu Asp Ala Phe Leu Glu Glu Val Thr
305 310 315 320

Val Leu Pro Pro Gly Arg Trp Asp Pro Thr Ala Arg Ile Pro Pro Pro
325 330 335

Lys Cys Leu Pro Ser Gln His Lys Arg Leu Pro Ser Gln Gln Arg Glu
340 345 350

Ile Arg Gly Pro Ala Val Pro Arg Leu Thr Ser Ala Glu Asp Arg His
355 360 365

Arg His Gly Pro His Ala His Ser Pro Glu Leu Gln Arg Thr Gly Arg
370 375 380

Leu Phe Gly Gly Leu Ile Gln Asp Val Arg Arg Lys Val Pro Trp Tyr
385 390 395 400

Pro Ser Asp Phe Leu Asp Ala Leu His Leu Gln Cys Phe Ser Ala Val
405 410 415

Leu Tyr Ile Tyr Leu Ala Thr Val Thr Asn Ala Ile Thr Phe Gly Gly
420 425 430

Leu Leu Gly Asp Ala Thr Asp Gly Ala Gln Gly Val Leu Glu Ser Phe
435 440 445

Leu Gly Thr Ala Val Ala Gly Ala Ala Phe Cys Leu Met Ala Gly Gln
450 455 460

Pro Leu Thr Ile Leu Ser Ser Thr Gly Pro Val Leu Val Phe Glu Arg
465 470 475 480

Leu Leu Phe Ser Phe Ser Arg Asp Tyr Ser Leu Asp Tyr Leu Pro Phe
485 490 495

Arg Leu Trp Val Gly Ile Trp Val Ala Thr Phe Cys Leu Val Leu Val
500 505 510

16U 200 PCT FINAL.ST25
Ala Thr Glu Ala Ser Val Leu Val Arg Tyr Phe Thr Arg Phe Thr Glu
515 520 525

Glu Gly Phe Cys Ala Leu Ile Ser Leu Ile Phe Ile Tyr Asp Ala Val
530 535 540

Gly Lys Met Leu Asn Leu Thr His Thr Tyr Pro Ile Gln Lys Pro Gly
545 550 555 560

Ser Ser Ala Tyr Gly Cys Leu Cys Gln Tyr Pro Gly Pro Gly Gly Asn
565 570 575

Glu Ser Gln Trp Ile Arg Thr Arg Pro Lys Asp Arg Asp Asp Ile Val
580 585 590

Ser Met Asp Leu Gly Leu Ile Asn Ala Ser Leu Leu Pro Pro Pro Glu
595 600 605

Cys Thr Arg Gln Gly Gly His Pro Arg Gly Pro Gly Cys His Thr Val
610 615 620

Pro Asp Ile Ala Phe Phe Ser Leu Leu Leu Phe Leu Thr Ser Phe Phe
625 630 635 640

Phe Ala Met Ala Leu Lys Cys Val Lys Thr Ser Arg Phe Phe Pro Ser
645 650 655

Val Val Arg Lys Gly Leu Ser Asp Phe Ser Ser Val Leu Ala Ile Leu
660 665 670

Leu Gly Cys Gly Leu Asp Ala Phe Leu Gly Leu Ala Thr Pro Lys Leu
675 680 685

Met Val Pro Arg Glu Phe Lys Pro Thr Leu Pro Gly Arg Gly Trp Leu
690 695 700

Val Ser Pro Phe Gly Ala Asn Pro Trp Trp Trp Ser Val Ala Ala Ala
705 710 715 720

Leu Pro Ala Leu Leu Leu Ser Ile Leu Ile Phe Met Asp Gln Gln Ile
725 730 735

Thr Ala Val Ile Leu Asn Arg Met Glu Tyr Arg Leu Gln Lys Gly Ala
740 745 750

Gly Phe His Leu Asp Leu Phe Cys Val Ala Val Leu Met Leu Leu Thr
755 760 765

Ser Ala Leu Gly Leu Pro Trp Tyr Val Ser Ala Thr Val Ile Ser Leu
770 775 780

Ala His Met Asp Ser Leu Arg Arg Glu Ser Arg Ala Cys Ala Pro Gly
785 790 795 800

Glu Arg Pro Asn Phe Leu Gly Ile Arg Glu Gln Arg Leu Thr Gly Leu
805 810 815

Val Val Phe Ile Leu Thr Gly Ala Ser Ile Phe Leu Ala Pro Val Leu
820 825 830

16U 200 PCT FINAL.ST25

Lys Phe Ile Pro Met Pro Val Leu Tyr Gly Ile Phe Leu Tyr Met Gly
835 840 845

Val Ala Ala Leu Ser Ser Ile Gln Phe Thr Asn Arg Val Lys Leu Leu
850 855 860

Leu Met Pro Ala Lys His Gln Pro Asp Leu Leu Leu Arg His Val
865 870 875 880

Pro Leu Thr Arg Val His Leu Phe Thr Ala Ile Gln Leu Ala Cys Leu
885 890 895

Gly Leu Leu Trp Ile Ile Lys Ser Thr Pro Ala Ala Ile Ile Phe Pro
900 905 910

Leu Met Leu Leu Gly Leu Val Gly Val Arg Lys Ala Leu Glu Arg Val
915 920 925

Phe Ser Pro Gln Glu Leu Leu Trp Leu Asp Glu Leu Met Pro Glu Glu
930 935 940

Glu Arg Ser Ile Pro Glu Lys Gly Leu Glu Pro Glu His Ser Phe Ser
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Glu Ile Asn Ile Ser Val Asn
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atg tca aga tcc aga ctt ttc agt gtc acc tca gcg atc tca acg ata 107
Met Ser Arg Ser Arg Leu Phe Ser Val Thr Ser Ala Ile Ser Thr Ile
1 5 10 15

ggg atc ttg tgt ttg ccg cta ttc cag ttg gtg ctc tcg gac cta cca 155
Gly Ile Leu Cys Leu Pro Leu Phe Gln Leu Val Leu Ser Asp Leu Pro
20 25 30

tgc gaa gaa gat gaa atg tgt gta aat tat aat gac caa cac cct aat 203
Cys Glu Asp Glu Met Cys Val Asn Tyr Asn Asp Gln His Pro Asn
35 40 45

ggc tgg tat atc tgg atc ctc ctg ctg gtt ttg gtg gca gct ctt 251
Gly Trp Tyr Ile Trp Ile Leu Leu Leu Val Leu Val Ala Ala Leu
50 55 60

ctc tgt gga gct gtg gtc ctc ctc cag tgc tgg ctg agg aga ccc 299
Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys Trp Leu Arg Arg Pro
65 70 75 80

cga att gat tct cac agg cgc acc atg gca gtt ttt gct gtt gga gac 347
Arg Ile Asp Ser His Arg Arg Thr Met Ala Val Phe Ala Val Gly Asp
85 90 95

ttg gac tct att tat ggg aca gaa gca gct gtg agt cca act gtt gga 395

16U 200 PCT FINAL.ST25

Leu Asp Ser Ile Tyr Gly Thr Glu Ala Ala Val Ser Pro Thr Val Gly
 100 105 110

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 Ile His Leu Gln Thr Gln Thr Pro Asp Leu Tyr Pro Val Pro Ala Pro
 115 120 125

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 Cys Phe Gly Pro Leu Gly Ser Pro Pro Pro Tyr Glu Glu Ile Val Lys
 130 135 140

aca acc tgatTTAGG tGtggattat caatTTAAAG tATTAACGAC atCTGtaatt 547
 Thr Thr
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ccaaaacatc aaatttagga atagttattt cagttgtgg aaatgtccag agatctattc 607

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ggagatgttt aaatagtaaa gtagcaggct ttt 700

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<400> 93

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Gly Ile Leu Cys Leu Pro Leu Phe Gln Leu Val Leu Ser Asp Leu Pro
 20 25 30

Cys Glu Glu Asp Glu Met Cys Val Asn Tyr Asn Asp Gln His Pro Asn
 35 40 45

Gly Trp Tyr Ile Trp Ile Leu Leu Leu Leu Val Leu Val Ala Ala Leu
 50 55 60

Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys Trp Leu Arg Arg Pro
 65 70 75 80

Arg Ile Asp Ser His Arg Arg Thr Met Ala Val Phe Ala Val Gly Asp
 85 90 95

Leu Asp Ser Ile Tyr Gly Thr Glu Ala Ala Val Ser Pro Thr Val Gly
 100 105 110

Ile His Leu Gln Thr Gln Thr Pro Asp Leu Tyr Pro Val Pro Ala Pro
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Cys Phe Gly Pro Leu Gly Ser Pro Pro Pro Tyr Glu Glu Ile Val Lys
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Thr Thr
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	Ser Gly Arg Leu Glu Asp Phe Pro Val Asn Val Phe Ser Val Thr Pro	
	10 15 20	
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	Tyr Thr Pro Ser Thr Ala Asp Ile Gln Val Ser Asp Asp Lys Ala	
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	Gly Ala Thr Leu Leu Phe Ser Gly Ile Phe Leu Gly Leu Val Gly Ile	
	45 50	
55	aca ttc act gtc atg ggc tgg atc aaa tac caa ggt gtc tcc cac ttt	247
	Thr Phe Thr Val Met Gly Trp Ile Lys Tyr Gln Gly Val Ser His Phe	
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70	gaa tgg acc cag ctc ctt ggg ccc gtc ctg ctg tca gtt ggg gtg aca	295
	Glu Trp Thr Gln Leu Leu Gly Pro Val Leu Leu Ser Val Gly Val Thr	
	75 80	
85	ttc atc ctg att gct gtg tgc aag ttc aaa atg ctc tcc tgc cag ttg	343
	Phe Ile Leu Ile Ala Val Cys Lys Phe Lys Met Leu Ser Cys Gln Leu	
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105	tgc aaa gaa agt gag gaa agg gtc ccg gac tcg gaa cag aca cca gga	391
	Cys Lys Glu Ser Glu Glu Arg Val Pro Asp Ser Glu Gln Thr Pro Gly	
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120	gga cca tca ttt gtt ttc act ggc atc aac caa ccc atc acc ttc cat	439
	Gly Pro Ser Phe Val Phe Thr Gly Ile Asn Gln Pro Ile Thr Phe His	
	125 130	
135	ggg gcc act gtg gtg cag tac atc cct cct tat ggt tct cca gag	487
	Gly Ala Thr Val Val Gln Tyr Ile Pro Pro Pro Tyr Gly Ser Pro Glu	
	140 145	
150	cct atg ggg ata aat acc agc tac ctg cag tct gtg gtg agc ccc tgc	535
	Pro Met Gly Ile Asn Thr Ser Tyr Leu Gln Ser Val Val Ser Pro Cys	
	155 160	
165	ggc ctc ata acc tct gga ggg gca gca gcc gcc atg tca agt cct cct	583
	Gly Leu Ile Thr Ser Gly Gly Ala Ala Ala Met Ser Ser Pro Pro	
	170 175 180	
185	caa tac tac acc atc tac cct caa gat aac tct gca ttt gtg gtt gat	631
	Gln Tyr Tyr Thr Ile Tyr Pro Gln Asp Asn Ser Ala Phe Val Val Asp	
	190 195	
200	gag ggc tgc ctt tct ttc acg gac ggt gga aat cac agg ccc aat cct	679
	Glu Gly Cys Leu Ser Phe Thr Asp Gly Gly Asn His Arg Pro Asn Pro	
	205 210	
215	gat gtt gac cag cta gaa gag aca cag ctg gaa gag gag gcc tgt gcc	727
	Asp Val Asp Gln Leu Glu Thr Gln Leu Glu Glu Ala Cys Ala	
	220 225	
230	tgc ttc tct cct ccc cct tat gaa gaa ata tac tct ctc cct cgc	772
	Cys Phe Ser Pro Pro Tyr Glu Glu Ile Tyr Ser Leu Pro Arg	
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245	tgttacctga caaccgtgg tttctatgtt gtaaccttca gaagttacag cagcgccca	892
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255	ttggtaaaaa ttaggctggg ctggggaaat ttcctccgg aacagttca aattccctcg	1012
260	ggtaagaaaat ctcctgtata aggttcagga gcaggaattt cacttttca tccaccaccc	1072
265	tccccctct ctgttaggaag gcattggfgg ctcaattta accccagcag ccaatggaaa	1132
270	aatcacgact tctgagactt tgggagttc cacagaggtg agagtccgggt gggaggaag	1192

16U 200 PCT FINAL.ST25
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<400> 95

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 35 40 45

Leu Val Gly Ile Thr Phe Thr Val Met Gly Trp Ile Lys Tyr Gln Gly
 50 55 60

Val Ser His Phe Glu Trp Thr Gln Leu Leu Gly Pro Val Leu Leu Ser
 65 70 75 80

Val Gly Val Thr Phe Ile Leu Ile Ala Val Cys Lys Phe Lys Met Leu
 85 90 95

Ser Cys Gln Leu Cys Lys Glu Ser Glu Glu Arg Val Pro Asp Ser Glu
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16U 200 PCT FINAL.ST25

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16U 200 PCT FINAL.ST25

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16U 200 PCT FINAL.ST25

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16U 200 PCT FINAL.ST25

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16U 200 PCT FINAL.ST25

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ctg gtc tgg gct ctg gca cca ggc tct gcc agt ggc agc tca gag Leu Val Trp Ala Leu Ala Pro Gly Ser Ala Ser Gly Ser Ser Glu 1145 1150 1155			3474
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16U 200 PCT FINAL.ST25

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85 90 95Leu Pro Ala His Leu His Leu Asp Pro Leu Gly Cys Ala Ser Leu Ser
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115 120 125Gly Cys Ser Lys Gln Asn Thr Gly Gly Ala Lys Cys Gln Lys Pro Leu
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145 150 155 160Val Trp Pro Leu Gln Ser Leu Pro Gln Arg Asp Leu Lys Leu Val Asn
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180 185 190Pro Asp Thr Asp Pro Glu Glu Ala Asn Ser Gly Gln Gln Asn Ile Lys
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225 230 235 240Arg Thr Thr Arg Glu Ala Trp Lys Glu Ala Ser Arg Trp Asp Leu Pro
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16U 200 PCT FINAL.ST25
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Asn Gln Ile Leu Asp Ile Pro Gln Pro Gln Val Gly Trp Arg Ser Met
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Phe Pro Arg Gly Ala Glu Ala Gln Asp Trp His Leu Asp Met Gln Leu
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Ile Pro Leu Thr Pro Ala Ser Ala Pro Gln Val Arg Leu Asp Leu Gly
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785 790 795 800

Leu Ile Leu Gln Arg Arg Leu Arg Gly Arg Gln Tyr Leu Val Val Ala
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Asp Val Cys Pro Lys Glu Asp Ser Gly Gly Leu Cys Cys Tyr Asp Asp
820 825 830

Glu Gln Asp Val Trp Arg Pro Leu Ala Arg Met Pro Pro Glu Ala Val
835 840 845

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850 855 860

Ser Gly Cys Gln Gly Pro Gly His Gln Pro Ser Ser Arg Val Phe Cys
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Tyr Asn Pro Leu Thr Gly Ile Trp Ser Glu Val Cys Pro Leu Asn Gln
885 890 895

Ala Arg Pro His Cys Arg Leu Val Ala Leu Asp Gly His Leu Tyr Ala
900 905 910

16U 200 PCT FINAL.ST25

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 Phe Leu Pro Lys Ala Glu Gly Pro Gly Ser Gln Leu Gln Lys Leu Leu
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 Pro Ser Phe Leu Val Arg Glu Gln Asp Trp Asp Gln His Leu Asp Lys
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 Gly Asn Thr Val Leu His Ile Leu Ile Leu Gln Pro Asn Lys Thr Phe
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16U 200 PCT FINAL.ST25

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16U 200 PCT FINAL.ST25

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16U 200 PCT FINAL.ST25

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695

16U 200 PCT FINAL.ST25
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gccgtgggc atg ggc ctg gta cgc agc gtg ggc gcc ttg gcc gtg gtg gcc	171
Met Gly Leu Val Arg Ser Val Gly Ala Leu Ala Val Val Ala	
1 5 10	
gcc att ttt ggc ctg gag ttc ctc atg gtg tcc cag ttg tgc gag gac	219
Ala Ile Phe Gly Leu Glu Phe Leu Met Val Ser Gln Leu Cys Glu Asp	
15 20 25 30	
aaa cac tca cag tgc aag tgg gtc atg ggt tcc atc ctc ctc ctg gtg	267
Lys His Ser Gln Cys Lys Trp Val Met Gly Ser Ile Leu Leu Val	
35 40 45	
tct ttc gtc ctc tcc tcc ggc ggg ctc ctg ggt ttt gtg atc ctc ctc	315
Ser Phe Val Leu Ser Ser Gly Gly Leu Leu Gly Phe Val Ile Leu Leu	
50 55 60	
agg aac caa gtc aca ctc atc ggc ttc acc cta atg ttt tgg tgc gaa	363
Arg Asn Gln Val Thr Leu Ile Gly Phe Thr Leu Met Phe Trp Cys Glu	
65 70 75	
tcc act gcc tcc ttc ctc ttc ctg aac gcc atc agc ggc ctt cac	411
Phe Thr Ala Ser Phe Leu Leu Phe Leu Asn Ala Ile Ser Gly Leu His	
80 85 90	
atc aac agc atc acc cat ccc tgg gaa tgaccgtgaa aatttttaggc	458
Ile Asn Ser Ile Thr His Pro Trp Glu	
95 100	
cccccccaagg gacatcaatgat tccacaagaa aatatggtca aatggact tttccagcat	518
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aggccaggag ggtgcctcag tgccaccaac tgcacaggct tagccagatg ttgattttag	698
aggaagaaaa aaacattta aaactccttc ttgaatttc ttccctggac tggaaatacag	758
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gttcaggatt ccctcagaat gcccgtcaca cagtaggtt ccaaaccatt tgactcggtt	1058
tgcctccctg cccgtgtttt aaaccttaca aaccctggat aaccctatct tctagcagct	1118
ggctgtgcct ctggagctc tgcctatcag aaccctaccc taaggtgggt ttcccccga	1178
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16U 200 PCT FINAL.ST25

cccaaggccc	gtgtgtgcat	gtgtctgtct	tttgtgaggg	ttagacagcc	tcagggcacc	1298
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aggtgaaggg	ggccaggaac	cagtggagat	ttccatcctt	gccagcacgt	ctgtacttct	1478
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 35 40 45

Val Leu Ser Ser Gly Gly Leu Leu Gly Phe Val Ile Leu Leu Arg Asn
 50 55 60

Gln Val Thr Leu Ile Gly Phe Thr Leu Met Phe Trp Cys Glu Phe Thr
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 85 90 95

Ser Ile Thr His Pro Trp Glu
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48

tta act gaa caa gca gag ctt cag ctg ccc ctc ttc tgc ctc ttc tta
Leu Thr Glu Gln Ala Glu Leu Gln Leu Pro Leu Phe Cys Leu Phe Leu
20 25 30

96

gga att tac aca gtt act gtg gtg gga aac ctc agc atg atc tca att
Gly Ile Tyr Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile
35 40 45

144

att agg ctg aat cgt caa ctt cat acc ccc atg tac tat ttc ctg agt
Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
50 55 60

192

agt ttg tct ttt tta gat ttc tgc tat tct tct gtc att acc cct aaa
Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys
65 70 75 80

240

atg cta tca ggg ttt tta tgc aga gat aga tcc atc tcc tat tct gga
Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly
85 90 95

288

tgc atg att cag ctg ttt ttc tgt gtt tgt gtt att tct gaa tgc
Cys Met Ile Gln Leu Phe Phe Cys Val Cys Val Ile Ser Glu Cys
100 105 110

336

tac atg ctg gca gcc atg gcc tgc gat cgc tac gtg gcc atc tgc agc
Tyr Met Leu Ala Ala Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Ser
115 120 125

384

cca ctg ctc tac agg gtc atc atg tcc cct agg gtc tgt tct ctg ctg
Pro Leu Leu Tyr Arg Val Ile Met Ser Pro Arg Val Cys Ser Leu Leu
130 135 140

432

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Val Ala Ala Val Phe Ser Val Gly Phe Thr Asp Ala Val Ile His Gly
145 150 155 160

480

ggt tgt ata ctc agg ttg tct ttc tgt gga tca aac atc att aaa cat
Gly Cys Ile Leu Arg Leu Ser Phe Cys Gly Ser Asn Ile Ile Lys His
165 170 175

528

tat ttc tgt gac att gtc cct ctt att aaa ctc tcc tgc tcc agc act
Tyr Phe Cys Asp Ile Val Pro Leu Ile Lys Leu Ser Cys Ser Thr
180 185 190

576

tat att gat gag ctt ttg att ttt gtc att ggt gga ttt aac atg gtg
Tyr Ile Asp Glu Leu Leu Ile Phe Val Ile Gly Gly Phe Asn Met Val
195 200 205

624

gcc aca agc cta aca atc att att tca tat gct ttt atc ctc acc agc
Ala Thr Ser Leu Thr Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser
210 215 220

672

atc ctg cgc atc cac tct aaa aag ggc agg tgc aaa ggc ttt agc acc
Ile Leu Arg Ile His Ser Lys Lys Gly Arg Cys Lys Ala Phe Ser Thr
225 230 235 240

720

tgt agc tcc cac ctg aca gct gtt atg ttt tat ggg tct ctg atg

768

16U 200 PCT FINAL.ST25

Cys Ser Ser His Leu Thr Ala Val Leu Met	Phe Tyr Gly Ser Leu Met		
245	250	255	
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Ser Met Tyr Leu Lys Pro Ala Ser Ser Ser	Leu Thr Gln Glu Lys		
260	265	270	
gta tcc tca gta ttt tat acc act gtg att ctc atg ttg aat ccc ttg			864
Val Ser Ser Val Phe Tyr Thr Val Ile Leu Met	Leu Asn Pro Leu		
275	280	285	
ata tat agt ctg agg aac aat gaa gta aga aat gct ctg atg aaa ctt			912
Ile Tyr Ser Leu Arg Asn Asn Glu Val Arg Asn Ala Leu Met Lys Leu			
290	295	300	
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Gly Ile Tyr Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile			
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Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser			
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Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys			
65	70	75	80
Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly			
85	90	95	
Cys Met Ile Gln Leu Phe Phe Cys Val Cys Val Ile Ser Glu Cys			
100	105	110	
Tyr Met Leu Ala Ala Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Ser			
115	120	125	
Pro Leu Leu Tyr Arg Val Ile Met Ser Pro Arg Val Cys Ser Leu Leu			
130	135	140	
Val Ala Ala Val Phe Ser Val Gly Phe Thr Asp Ala Val Ile His Gly			
145	150	155	160
Gly Cys Ile Leu Arg Leu Ser Phe Cys Gly Ser Asn Ile Ile Lys His			
165	170	175	
Tyr Phe Cys Asp Ile Val Pro Leu Ile Lys Leu Ser Cys Ser Ser Thr			
180	185	190	
Tyr Ile Asp Glu Leu Leu Ile Phe Val Ile Gly Gly Phe Asn Met Val			
195	200	205	

16U 200 PCT FINAL.ST25
Ala Thr Ser Leu Thr Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser
210 215 220

Ile Leu Arg Ile His Ser Lys Lys Gly Arg Cys Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ser His Leu Thr Ala Val Leu Met Phe Tyr Gly Ser Leu Met
245 250 255

Ser Met Tyr Leu Lys Pro Ala Ser Ser Ser Leu Thr Gln Glu Lys
260 265 270

Val Ser Ser Val Phe Tyr Thr Val Ile Leu Met Leu Asn Pro Leu
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1 5 10 15	
ctc tct cag gtt tgg gag ctt cgg ttt gtt ttc ttc act gtt ttc tct	96
Leu Ser Gln Val Trp Glu Leu Arg Phe Val Phe Phe Thr Val Phe Ser	
20 25 30	
gct gtg tat ttt atg act gta gtg gga aac ctt ctt att gtg gtc ata	144
Ala Val Tyr Phe Met Thr Val Val Gly Asn Leu Leu Ile Val Val Ile	
35 40 45	
gtg acc tcc gac cca cac ctg cac aca acc atg tat ttt ctc ttg ggc	192
Val Thr Ser Asp Pro His Leu His Thr Thr Met Tyr Phe Leu Leu Gly	
50 55 60	
aat ctt tct ttc ctg gac ttt tgc tac tct tcc atc aca gca cct agg	240
Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Ile Thr Ala Pro Arg	
65 70 75 80	
atg ctg gtt gac ttg ctc tca ggc aac cct acc att tcc ttt ggt gga	288
Met Leu Val Asp Leu Ser Gly Asn Pro Thr Ile Ser Phe Gly Gly	
85 90 95	
tgc ctg actcaa ctc ttc ttc cac ttc att gga ggc atc aag atc	336
Cys Leu Thr Gln Leu Phe Phe His Phe Ile Gly Gly Ile Lys Ile	
100 105 110	
ttc ctg ctg act gtc atg gcg tat gac cgc tac att gcc att tcc cag	384
Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln	
115 120 125	
ccc ctg cac tac acg ctc att atg aat cag act gtc tgt gca ctc ctt	432
Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu	
130 135 140	
atg gca gcc tcc tgg gtg ggg ggc ttc atc cac tcc ata gta cag att	480
Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile	
145 150 155 160	
gca ttg act atc cag ctg cca ttc tgt ggg cct gac aag ctg gac aac	528
Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn	
165 170 175	
ttt tat tgt gat gtg cct cag ctg atc aaa ttg gcc tgc aca gat acc	576
Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr	
180 185 190	

16U 200 PCT FINAL.ST25

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ctc cga agc cac tca cgg gag ggc cgc agc aag gcc ctg tct acc tgt Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys 225 230 235 240	720
gcc tct cac att gct gtg acc tta atc ttt gtg cct tgc atc tac Ala Ser His Ile Ala Val Val Thr Leu Ile Phe Val Pro Cys Ile Tyr 245 250 255	768
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Leu Ser Gln Val Trp Glu Leu Arg Phe Val Phe Phe Thr Val Phe Ser 20 25 30

Ala Val Tyr Phe Met Thr Val Val Gly Asn Leu Leu Ile Val Val Ile 35 40 45

Val Thr Ser Asp Pro His Leu His Thr Thr Met Tyr Phe Leu Leu Gly 50 55 60

Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Ile Thr Ala Pro Arg 65 70 75 80

Met Leu Val Asp Leu Leu Ser Gly Asn Pro Thr Ile Ser Phe Gly Gly 85 90 95

Cys Leu Thr Gln Leu Phe Phe His Phe Ile Gly Gly Ile Lys Ile 100 105 110

Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln 115 120 125

Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu 130 135 140

Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile 145 150 155 160

16U 200 PCT FINAL.ST25

Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn
165 170 175

Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr
180 185 190

Phe Val Leu Glu Leu Leu Met Val Ser Asn Asn Gly Leu Val Thr Leu
195 200 205

Met Cys Phe Leu Val Leu Leu Gly Ser Tyr Thr Ala Leu Leu Val Met
210 215 220

Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys
225 230 235 240

Ala Ser His Ile Ala Val Val Thr Leu Ile Phe Val Pro Cys Ile Tyr
245 250 255

Val Tyr Thr Arg Pro Phe Arg Thr Phe Pro Met Asp Lys Ala Val Ser
260 265 270

Val Leu Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Ala Ile Tyr Thr
275 280 285

Leu Arg Asn Lys Glu Val Ile Met Ala Met Lys Lys Leu Trp Arg Arg
290 295 300

Lys Lys Asp Pro Ile Gly Pro Leu Glu His Arg Pro Leu His
305 310 315

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<210> 165
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<400> 165
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<210> 166
<211> 50
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<210> 167
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1 5 10 15			
ttc ccc agt agc cac ctc ata cag ttc ctg gtg ttc ctg ggg tta atg			96
Phe Pro Ser Ser His Leu Ile Gln Phe Leu Val Phe Leu Gly Leu Met			
20 25 30			
gtg acc tac att gta aca gcc aca ggc aag ctg cta att att gtg ctc			144
Val Thr Tyr Ile Val Thr Ala Thr Gly Lys Leu Ile Ile Val Leu			
35 40 45			
agc tgg ata gac caa cgc ctg cac ata cag atg tac ttc ttc ctg cgg			192
Ser Trp Ile Asp Gln Arg Leu His Ile Gln Met Tyr Phe Phe Leu Arg			
50 55 60			
aat ttc tcc ttc ctg gag ctg ttg ctg gta act gtt gtg gtt ccc aag			240
Asn Phe Ser Phe Leu Leu Leu Val Val Val Val Pro Lys			
65 70 75 80			
atg ctt gtc gtc atc ctc acg ggg gat cac acc atc tca ttt gtc agc			288
Met Leu Val Val Ile Leu Thr Gly Asp His Thr Ile Ser Phe Val Ser			
85 90 95			
tgc atc atc cag tcc tac ctc tac ttc ttt cta ggc acc act gac ttc			336
Cys Ile Ile Gln Ser Tyr Leu Tyr Phe Phe Leu Gly Thr Thr Asp Phe			
100 105 110			
ttc ctc ttg gcc gtc atg tct ctg gat cgt tac ctg gca atc tgc cga			384
Phe Leu Leu Ala Val Met Ser Leu Asp Arg Tyr Leu Ala Ile Cys Arg			
115 120 125			
cca ctc cgc tat gag acc ctg atg aat ggc cat gtc tgt tcc caa cta			432
Pro Leu Arg Tyr Glu Thr Leu Met Asn Gly His Val Cys Ser Gln Leu			
130 135 140			
gtg ctg gcc tcc tgg cta gct gga ttc ctc tgg gtc ctt tgc ccc act			480
Val Leu Ala Ser Trp Leu Ala Gly Phe Leu Trp Val Leu Cys Pro Thr			
145 150 155 160			
gtc ctc atg gcc agc ctg cct ttc tgt ggc ccc aat ggt att gac cac			528
Val Leu Met Ala Ser Leu Pro Phe Cys Gly Pro Asn Gly Ile Asp His			
165 170 175			
ttc ttt cgt gac agt tgg ccc ttg ctc agg ctt tct tgt ggg gac acc			576
Phe Phe Arg Asp Ser Trp Pro Leu Leu Arg Leu Ser Cys Gly Asp Thr			
180 185 190			
cac ctg ctg aaa ctg gtg gct ttc atg ctc tct acg ttg gtg tta ctg			624
His Leu Leu Lys Leu Val Ala Phe Met Leu Ser Thr Leu Val Leu Leu			
195 200 205			
ggc tca ctg gct ctg acc tca gtt tcc tat gcc tgc att ctt gcc act			672
Gly Ser Leu Ala Leu Thr Ser Val Ser Tyr Ala Cys Ile Leu Ala Thr			
210 215 220			
gtt ctc agg gcc cct aca gct gct gag cga agg aaa ggc ttt tcc act			720
Val Leu Arg Ala Pro Thr Ala Ala Glu Arg Arg Lys Ala Phe Ser Thr			
225 230 235 240			
tgc gcc tcg cat ctt aca gtg gtg gtc atc atc tat ggc agt tcc atc			768
Cys Ala Ser His Leu Thr Val Val Val Ile Ile Tyr Gly Ser Ser Ile			
245 250 255			
ttt ctc tac att cgt atg tca gag gct cag tcc aaa ctg ctc aac aaa			816
Phe Leu Tyr Ile Arg Met Ser Glu Ala Gln Ser Lys Leu Leu Asn Lys			
260 265 270			
ggt gcc tcc gtc ctg agc tgc atc atc aca ccc ctc ttg aac cca ttc			864
Gly Ala Ser Val Leu Ser Cys Ile Ile Thr Pro Leu Leu Asn Pro Phe			
275 280 285			
atc ttc act ctc cgc aat gac aag gtg cag caa gca ctg aga gaa gcc			912
Ile Phe Thr Leu Arg Asn Asp Lys Val Gln Gln Ala Leu Arg Glu Ala			
290 295 300			
ttg ggg tgg ccc agg ctc act gct gtg atg aaa ctg agg gtc aca agt			960
Leu Gly Trp Pro Arg Leu Thr Ala Val Met Lys Leu Arg Val Thr Ser			

305 310 16U 200 PCT FINAL.ST25
315 320

caa agg aaa tga 972
Gln Arg Lys

<210> 168
<211> 323
<212> PRT
<213> *Homo sapiens*

<400> 168

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Phe Pro Ser Ser His Leu Ile Gln Phe Leu Val Phe Leu Gly Leu Met
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Val Thr Tyr Ile Val Thr Ala Thr Gly Lys Leu Leu Ile Ile Val Leu
35 40 45

Ser Trp Ile Asp Gln Arg Leu His Ile Gln Met Tyr Phe Phe Leu Arg
50 55 60

Asn Phe Ser Phe Leu Glu Leu Leu Leu Val Thr Val Val Val Val Pro Lys
65 70 75 80

Met Leu Val Val Ile Leu Thr Gly Asp His Thr Ile Ser Phe Val Ser
85 90 95

Cys Ile Ile Gln Ser Tyr Leu Tyr Phe Phe Leu Gly Thr Thr Asp Phe
 100 105 110

Phe Leu Leu Ala Val Met Ser Leu Asp Arg Tyr Leu Ala Ile Cys Arg
115 120 125

Pro Leu Arg Tyr Glu Thr Leu Met Asn Gly His Val Cys Ser Gln Leu
130 135 140

Val Leu Ala Ser Trp Leu Ala Gly Phe Leu Trp Val Leu Cys Pro Thr
145 150 155 160

Val Leu Met Ala Ser Leu Pro Phe Cys Gly Pro Asn Gly Ile Asp His
165 170 175

Phe Phe Arg Asp Ser Trp Pro Leu Leu Arg Leu Ser Cys Gly Asp Thr
180 185 190

His Leu Leu Lys Leu Val Ala Phe Met Leu Ser Thr Leu Val Leu Leu
195 200 205

Gly Ser Leu Ala Leu Thr Ser Val Ser Tyr Ala Cys Ile Leu Ala Thr
210 215 220

Val Leu Arg Ala Pro Thr Ala Ala Glu Arg Arg Lys Ala Phe Ser Thr
225 230 235 240

Cys Ala Ser His Leu Thr Val Val Val Ile Ile Tyr Gly Ser Ser Ile
245 250 255

Phe Leu Tyr Ile Arg Met Ser Glu Ala Gln Ser Lys Leu Leu Asn Lys

16U 200 PCT FINAL.ST25
 260 265 270

Gly Ala Ser Val Leu Ser Cys Ile Ile Thr Pro Leu Leu Asn Pro Phe
 275 280 285

Ile Phe Thr Leu Arg Asn Asp Lys Val Gln Gln Ala Leu Arg Glu Ala
 290 295 300

Leu Gly Trp Pro Arg Leu Thr Ala Val Met Lys Leu Arg Val Thr Ser
 305 310 315 320

Gln Arg Lys

<210> 169
 <211> 25
 <212> DNA
 <213> Homo sapiens

<400> 169
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<210> 170
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 <212> DNA
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<400> 170
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<210> 171
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 1 5 10 15

ttc ctg gtg gtt tat gtg ctt act gtg ctg ggg aac ctc ctc atc ctg 96
 Phe Leu Val Val Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu
 20 25 30

ctg gtg atc agg gtg tac tct cac ctc cac acc ccc aag tac tac ttc 144
 Leu Val Ile Arg Val Tyr Ser His Leu His Thr Pro Lys Tyr Tyr Phe
 35 40 45

ctc acc aat ctg tcc ttc att gac ttg tgg ttc act gtc atg gtg 192
 Leu Thr Asn Leu Ser Phe Ile Asp Leu Trp Phe Phe Thr Val Met Val
 50 55 60

ccc aaa atg ccg agg acc ttg ttg tcc ctg tgt ggc aag gct gtg tcc 240
 Pro Lys Met Pro Arg Thr Leu Leu Ser Leu Cys Gly Lys Ala Val Ser
 65 70 75 80

ttc cac agt tgt atg acc caa ctc tat ttc ttc tac ttc ctg ggg agc 288
 Phe His Ser Cys Met Thr Gln Leu Tyr Phe Phe Tyr Phe Leu Gly Ser
 85 90 95

acc gag tgt ttg ctc tac acg gtc atg tcc tat gat cgc tat aga gga 336
 Thr Glu Cys Leu Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Arg Gly
 100 105 110

aat act cag cac ttc cca ggt agt gaa aac act ccc cac gaa gtg agc 384
 Asn Thr Gln His Phe Pro Gly Ser Glu Asn Thr Pro His Glu Val Ser
 115 120 125

16U 200 PCT FINAL.ST25

caa atg cta gtg gcc cgg ggg gca cac ggg ctc cca ctc atc atc ctg 432
 Gln Met Leu Val Ala Arg Gly Ala His Gly Leu Pro Leu Ile Ile Leu
 130 135 140

gca gat ctg agt ggg taa 450
 Ala Asp Leu Ser Gly
 145

<210> 172
 <211> 149
 <212> PRT
 <213> Homo sapiens

<400> 172
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 1 5 10 15

Phe Leu Val Val Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu
 20 25 30

Leu Val Ile Arg Val Tyr Ser His Leu His Thr Pro Lys Tyr Tyr Phe
 35 40 45

Leu Thr Asn Leu Ser Phe Ile Asp Leu Trp Phe Phe Thr Val Met Val
 50 55 60

Pro Lys Met Pro Arg Thr Leu Leu Ser Leu Cys Gly Lys Ala Val Ser
 65 70 75 80

Phe His Ser Cys Met Thr Gln Leu Tyr Phe Phe Tyr Phe Leu Gly Ser
 85 90 95

Thr Glu Cys Leu Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Arg Gly
 100 105 110

Asn Thr Gln His Phe Pro Gly Ser Glu Asn Thr Pro His Glu Val Ser
 115 120 125

Gln Met Leu Val Ala Arg Gly Ala His Gly Leu Pro Leu Ile Ile Leu
 130 135 140

Ala Asp Leu Ser Gly
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<210> 173
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 <213> Homo sapiens

<400> 173
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<210> 174
 <211> 27
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 <213> Homo sapiens

<400> 174
 acccaactcg atctgccagg atgatga 27

<210> 175
 <211> 936
 <212> DNA
 <213> Homo sapiens

16U 200 PCT FINAL.ST25

<220>

<221> CDS

<222> (1)..(936)

<223>

<400> 175

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 1 5 10 15

48

cat gcc cca ggg ctg gac gcc ctc ctc ttt gga atc ttc ctg gtg gtt
 His Ala Pro Gly Leu Asp Ala Leu Leu Phe Gly Ile Phe Leu Val Val
 20 25 30

96

tac gtg ctc act gtg ctg ggg aac ctc ctc atc ctg ctg gtg atc agg
 Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Val Ile Arg
 35 40 45

144

gtg gat tct cac ctc cac acc ccc atg tac tac ttc ctc acc aac ctg
 Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu
 50 55 60

192

tcc ttc att gac atg tgg ttc tcc act gtc acg gtg ccc aaa atg ctg
 Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu
 65 70 75 80

240

atg acc ttg gtg tcc cca agc ggc agg gct atc tcc ttc cac agc tgc
 Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys
 85 90 95

288

gtg gct cag ctc tat ttt ttc cac ttc ctg ggg agc acc gag tgt ttc
 Val Ala Gln Leu Tyr Phe His Phe Leu Gly Ser Thr Glu Cys Phe
 100 105 110

336

ctc tac aca gtc atg tcc tat gat cgc tac ttg gcc atc agt tac ccg
 Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro
 115 120 125

384

ctc agg tac acc agc atg atg agt ggg agc agg tgt gcc ctc ctg gcc
 Leu Arg Tyr Thr Ser Met Ser Gly Ser Arg Cys Ala Leu Leu Ala
 130 135 140

432

acc ggc act tgg ctc agt ggc tct ctg cac tct gct gtc cag acc ata
 Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile
 145 150 155 160

480

ttg act ttc cat ttg ccc tac tgt gga ccc aac cag atc cag cac tac
 Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr
 165 170 175

528

ttc tgt gac gca ccg ccc atc ctg aaa ctg gcc tgt gca gac acc tca
 Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser
 180 185 190

576

gcc aac gtg atg gtc atc ttt gtg gac att ggg ata gtg gcc tca ggc
 Ala Asn Val Met Val Ile Phe Val Asp Ile Gly Ile Val Ala Ser Gly
 195 200 205

624

tgc ttt gtc ctg ata gtg ctg tcc tat gtg tcc atc gtc tgt tcc atc
 Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile
 210 215 220

672

ctg cgg atc cgc acc tca gat ggg agg cgc aga gcc ttt cag acc tgt
 Leu Arg Ile Arg Thr Ser Asp Gly Arg Arg Ala Phe Gln Thr Cys
 225 230 235 240

720

gcc tcc cac tgt att gtg gtc ctt tgc ttc ttt gtt ccc tgt gtt gtc
 Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Pro Cys Val Val
 245 250 255

768

att tat ctg agg cca ggc tcc atg gat gcc atg gat gga gtt gtg gcc
 Ile Tyr Leu Arg Pro Gly Ser Met Asp Ala Met Asp Gly Val Val Ala
 260 265 270

816

att ttc tac act gtg ctg acg ccc ctt ctc aac cct gtt gtg tac acc
 Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr
 275 280 285

864

16U 200 PCT FINAL.ST25			
ctg	aga	aac aag gag gtg aag aaa gct gtg ttg aaa ctt aga gac aaa	912
Leu	Arg	Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys	
290		295	300
gta gca cat cct cag agg aaa taa			936
Val	Ala	His Pro Gln Arg Lys	
305		310	
<210> 176			
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15			
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20		25	30
Tyr	Val	Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg	
35		40	45
Val	Asp	Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu	
50		55	60
Ser	Phe	Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu	
65		70	75
80			
Met	Thr	Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys	
85		90	95
Val	Ala	Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe	
100		105	110
Leu	Tyr	Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro	
115		120	125
Leu	Arg	Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala	
130		135	140
Thr	Gly	Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile	
145		150	155
160			
Leu	Thr	Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr	
165		170	175
Phe	Cys	Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser	
180		185	190
Ala	Asn	Val Met Val Ile Phe Val Asp Ile Gly Ile Val Ala Ser Gly	
195		200	205
Cys	Phe	Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile	
210		215	220
Leu	Arg	Ile Arg Thr Ser Asp Gly Arg Arg Ala Phe Gln Thr Cys	
225		230	235
240			
Ala	Ser	His Cys Ile Val Val Leu Cys Phe Phe Val Pro Cys Val Val	
245		250	255

16U 200 PCT FINAL.ST25

Ile Tyr Leu Arg Pro Gly Ser Met Asp Ala Met Asp Gly Val Val Ala
260 265 270

Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr
275 280 285

Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys
290 295 300

Val Ala His Pro Gln Arg Lys
305 310

<210> 177
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<212> DNA
<213> Homo sapiens

<400> 177
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<210> 178
<211> 33
<212> DNA
<213> Homo sapiens

<400> 178
ttatttcctc tgaggatgtc ctactttgtc tct 33

<210> 179
<211> 50
<212> DNA
<213> Homo sapiens

<400> 179
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<210> 180
<211> 50
<212> DNA
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<400> 180
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<210> 181
<211> 921
<212> DNA
<213> Homo sapiens

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<221> CDS
<222> (1)...(921)
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<400> 181
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Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser His Leu Ala Asp Leu
1 5 10 15

cag ggc ttg ctc ttc tct gtc ttt ctc act atc tac ctg ctg acc gtg 96
Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val
20 25 30

gca ggc aat ttc ctc att gtg gtg ctg gtc tcc act gat gct gcc ctc 144
Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu
35 40 45

cag tcc cct atg tac ttc ttc ctg cgc acc ctc tcg gcc ttg gag att 192
Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile
50 55 60

16U 200 PCT FINAL.ST25

ggc tat acg tct gtc acg gtc ccc ctg cta ctt cac cac ctc ctt act	240
Gly Tyr Thr Ser Val Thr Val Pro Leu Leu His His His Leu Leu Thr	
65 70 75 80	
ggc cgg cgc cac atc tct cgc tct gga tgt gct ctc cag atg ttc ttc	288
Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe	
85 90 95	
ttc ctc ttc ttt ggc gcc acg gag tgc tgc ctc ctg gca gcc atg gcc	336
Phe Leu Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala	
100 105 110	
tat gac cgc tat gca gcc atc tgt gaa ccc ctc cgc tac cca ctg ctg	384
Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu	
115 120 125	
ctg agc cac cgg gtg tgt cta cag cta gct ggg tcg gcg tgg gcc tgt	432
Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys	
130 135 140	
ggg gtg ctg gtg ggg ctg ggc cac acc cct ttc atc ttc tct ttg ccc	480
Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro	
145 150 155 160	
ttc tgc ggc ccc aat acc atc ccg cag ttc ttc tgt gag atc cag cct	528
Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro	
165 170 175	
gtc ctg cag ctg gta tgt gga gac acc tcg ctt aat gaa ctg cag att	576
Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile	
180 185 190	
atc ctg gca aca gcc ctc atc ctc tgc ccc ttt ggc ctc atc ctg	624
Ile Leu Ala Thr Ala Leu Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu	
195 200 205	
ggc tcc tac ggg cgt atc ctc gtt acc atc ttc cgg atc cca tct gtt	672
Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val	
210 215 220	
gcg ggc cgc aag gcc ttc tcc acc tgc tcc tcc cac ctg atc gtg	720
Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val	
225 230 235 240	
gtc tcc ctc ttc tat ggc acc gca ctc ttt atc tat att cgc cct aag	768
Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys	
245 250 255	
gcc agc tac gat ccg gcc act gac cct ctg gtg tcc ctc ttc tat gct	816
Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala	
260 265 270	
gtg gtc acc ccc atc ctc aac ccc atc atc tac agc ctg cgg aac aca	864
Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr	
275 280 285	
gag gtc aaa gct gcc cta aag aga acc atc cag aaa acg gtg cct atg	912
Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met	
290 295 300	
gag att tga	921
Glu Ile	
305	

<210> 182
 <211> 306
 <212> PRT
 <213> Homo sapiens

<400> 182

Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser His Leu Ala Asp Leu
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Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val
 20 25 30

16U 200 PCT FINAL.ST25

Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu
35 40 45

Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile
50 55 60

Gly Tyr Thr Ser Val Thr Val Pro Leu Leu Leu His His Leu Leu Thr
65 70 75 80

Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe
85 90 95

Phe Leu Phe Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala
100 105 110

Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu
115 120 125

Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys
130 135 140

Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro
145 150 155 160

Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro
165 170 175

Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile
180 185 190

Ile Leu Ala Thr Ala Leu Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu
195 200 205

Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val
210 215 220

Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val
225 230 235 240

Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys
245 250 255

Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala
260 265 270

Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr
275 280 285

Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met
290 295 300

Glu Ile
305

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<211> 20
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16U 200 PCT FINAL.ST25

<400> 183	20
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1 5 10 15	
ttt ggt gtc caa cac gaa ttt cag cat gtc ctt ttc att gta ctt ctt	96
Phe Gly Val Gln His Glu Phe Gln His Val Leu Phe Ile Val Leu Leu	
20 25 30	
ctt atc tat gtg acc tcc ctg ata gga aat att gga atg atc tta ctc	144
Leu Ile Tyr Val Thr Ser Leu Ile Gly Asn Ile Gly Met Ile Leu Leu	
35 40 45	
atc aag acc gat tcc aga ctt caa aca ccc atg tac ttt ttt cca caa	192
Ile Lys Thr Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Pro Gln	
50 55 60	
cat ttg gct ttt gtt gat atc tgt tat act tct gct atc act ccc aag	240
His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys	
65 70 75 80	
atg ctc caa agc ttc aca gaa aat aat ttg ata aca ttt cgg ggc	288
Met Leu Gln Ser Phe Thr Glu Asn Asn Leu Ile Thr Phe Arg Gly	
85 90 95	
tgt gtg ata caa ttc tta gtt tat gca aca ttt gca acc agt gac tgt	336
Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys	
100 105 110	
tac ctc cta gct att atg gca atg gat tgt tat gtt gcc atc tgt aag	384
Tyr Leu Leu Ala Ile Met Ala Met Asp Cys Tyr Val Ala Ile Cys Lys	
115 120 125	
ccc ctt cgc tat ccc atg atc atg tcc caa aca gtc tac atc caa ctc	432
Pro Leu Arg Tyr Pro Met Ile Met Ser Gln Thr Val Tyr Ile Gln Leu	
130 135 140	
gta gct ggc tca tat att ata ggc tca ata aat gcc tct gta cat aca	480
Val Ala Gly Ser Tyr Ile Ile Gly Ser Ile Asn Ala Ser Val His Thr	
145 150 155 160	
ggg ttt aca ttt tca ctg tcc ttc tgc aag tct aat aaa atc aat cac	528
Gly Phe Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Lys Ile Asn His	
165 170 175	
ttt ttc tgt gat ggt ctc cca att ctt gcc ctt tca tgc tcc aac att	576
Phe Phe Cys Asp Gly Leu Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile	
180 185 190	
gac atc aac atc att cta gat gtt gtc ttt gtg gga ttt gac ttg atg	624
Asp Ile Asn Ile Ile Leu Asp Val Val Phe Val Gly Phe Asp Leu Met	
195 200 205	
ttc act gag ttg gtc atc atc ttt tcc tac atc tac att atg gtc acc	672
Phe Thr Glu Leu Val Ile Ile Phe Ser Tyr Ile Tyr Ile Met Val Thr	
210 215 220	

16U 200 PCT FINAL.ST25

atc ctg aag atg tct tct act gct ggg agg aaa aaa tcc ttc tcc aca 720
 Ile Leu Lys Met Ser Ser Thr Ala Gly Arg Lys Lys Ser Phe Ser Thr
 225 230 235 240

tgt gcc tcc cac ctg aca gca gta acc att ttc tat ggg aca ctc tct 768
 Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
 245 250 255

tac atg tac tta cag cct cag tct aat aat tct cag gag aat atg aaa 816
 Tyr Met Tyr Leu Gln Pro Gln Ser Asn Asn Ser Gln Glu Asn Met Lys
 260 265 270

gta gcc tct ata ttt tat ggc act gtt att ccc atg ttg aat cct tta 864
 Val Ala Ser Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
 275 280 285

atc tat agc ttg aga aat aag gaa gga aaa taa 897
 Ile Tyr Ser Leu Arg Asn Lys Glu Gly Lys
 290 295

<210> 186

<211> 298

<212> PRT

<213> Homo sapiens

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Met Gly Arg Gly Asn Ser Thr Glu Val Thr Glu Phe His Leu Leu Gly
 1 5 10 15

Phe Gly Val Gln His Glu Phe Gln His Val Leu Phe Ile Val Leu Leu
 20 25 30

Leu Ile Tyr Val Thr Ser Leu Ile Gly Asn Ile Gly Met Ile Leu Leu
 35 40 45

Ile Lys Thr Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Pro Gln
 50 55 60

His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
 65 70 75 80

Met Leu Gln Ser Phe Thr Glu Glu Asn Asn Leu Ile Thr Phe Arg Gly
 85 90 95

Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
 100 105 110

Tyr Leu Leu Ala Ile Met Ala Met Asp Cys Tyr Val Ala Ile Cys Lys
 115 120 125

Pro Leu Arg Tyr Pro Met Ile Met Ser Gln Thr Val Tyr Ile Gln Leu
 130 135 140

Val Ala Gly Ser Tyr Ile Ile Gly Ser Ile Asn Ala Ser Val His Thr
 145 150 155 160

Gly Phe Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Lys Ile Asn His
 165 170 175

Phe Phe Cys Asp Gly Leu Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile
 180 185 190

Asp Ile Asn Ile Ile Leu Asp Val Val Phe Val Gly Phe Asp Leu Met
 195 200 205

16U 200 PCT FINAL.ST25

Phe Thr Glu Leu Val Ile Ile Phe Ser Tyr Ile Tyr Ile Met Val Thr
 210 215 220

Ile Leu Lys Met Ser Ser Thr Ala Gly Arg Lys Lys Ser Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
 245 250 255

Tyr Met Tyr Leu Gln Pro Gln Ser Asn Asn Ser Gln Glu Asn Met Lys
 260 265 270

Val Ala Ser Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Gly Lys
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<210> 187

<211> 930

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<222> (1)..(930)

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 Met Thr Leu Gly Asn Ser Thr Glu Val Thr Glu Phe Tyr Leu Leu Gly
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ttt ggt gcc cag cat gag ttt tgg tgt atc ctc ttc att gta ttc ctt 96
 Phe Gly Ala Gln His Glu Phe Trp Cys Ile Leu Phe Ile Val Phe Leu
 20 25 30

ctc atc tat gtg acc tcc ata atg ggt aat agt gga ata atc tta ctc 144
 Leu Ile Tyr Val Thr Ser Ile Met Gly Asn Ser Gly Ile Ile Leu Leu
 35 40 45

atc aac aca gat tcc aga ttt caa aca ctc acg tac ttt ttt cta caa 192
 Ile Asn Thr Asp Ser Arg Phe Gln Thr Leu Thr Tyr Phe Phe Leu Gln
 50 55 60

cat ttg gct ttt gtt gat atc tgt tac act tct gct atc act ccc aag 240
 His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
 65 70 75 80

atg ctc caa agc ttc aca gaa aag aat ttg atg tta ttt cag ggc 288
 Met Leu Gln Ser Phe Thr Glu Glu Lys Asn Leu Met Leu Phe Gln Gly
 85 90 95

tgt gtg ata caa ttc tta gtt tat gca aca ttt gca acc agt gac tgt 336
 Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
 100 105 110

tat ctc ctg gct atg atg gca gtg gat cct tat gtt gcc atc tgt aag 384
 Tyr Leu Leu Ala Met Met Ala Val Asp Pro Tyr Val Ala Ile Cys Lys
 115 120 125

ccc ctt cac tat act gta atc atg tcc cga aca gtc tgc atc cgt ttg 432
 Pro Leu His Tyr Thr Val Ile Met Ser Arg Thr Val Cys Ile Arg Leu
 130 135 140

gta gct ggt tca tac atc atg ggc tca ata aat gcc tct gta caa aca 480
 Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val Gln Thr
 145 150 155 160

ggg ttt aca tgt tca ctg tcc ttc tgc aag tcc aat agc atc aat cac 528
 Gly Phe Thr Cys Ser Leu Ser Phe Cys Lys Ser Asn Ser Ile Asn His

16U 200 PCT FINAL.ST25

165	170	175	
ttt ttc tgt gat gtt ccc cct att ctt gct ctt tca tgc tcc aat gtt Phe Phe Cys Asp Val Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Val 180 185 190			576
gac atc aac atc atg cta ctt gtt gtc ttt gtg gga tct aac ttg ata Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Ser Asn Leu Ile 195 200 205			624
ttc act ggg ttg gtc atc ttt tcc tac atc tac atc atg gcc acc Phe Thr Gly Leu Val Val Ile Phe Ser Tyr Ile Tyr Ile Met Ala Thr 210 215 220			672
atc ctg aaa atg tct tct agt gca gga agg aaa aaa tcc ttc tca aca Ile Leu Lys Met Ser Ser Ser Ala Gly Arg Lys Lys Ser Phe Ser Thr 225 230 235 240			720
tgt gct tcc cac ctg acc gca gtc acc att ttc tat ggg aca ctc tct Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser 245 250 255			768
tac atg tat ttg cag tct cat tct aat aat tcc cag gaa aat atg aaa Tyr Met Tyr Leu Gln Ser His Ser Asn Asn Ser Gln Glu Asn Met Lys 260 265 270			816
gtg gcc ttt ata ttt tat ggc aca gtt att ccc atg tta aat cct tta Val Ala Phe Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu 275 280 285			864
atc tat agc ttg aga aat aag gaa gta aaa gaa gct tta aaa gtg ata Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Lys Val Ile 290 295 300			912
ggg aaa aag tta ttt taa Gly Lys Lys Leu Phe 305			930

<210> 188
<211> 309
<212> PRT
<213> Homo sapiens

<400> 188

Met Thr Leu Gly Asn Ser Thr Glu Val Thr Glu Phe Tyr Leu Leu Gly
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Phe Gly Ala Gln His Glu Phe Trp Cys Ile Leu Phe Ile Val Phe Leu
20 25 30

Leu Ile Tyr Val Thr Ser Ile Met Gly Asn Ser Gly Ile Ile Leu Leu
35 40 45

Ile Asn Thr Asp Ser Arg Phe Gln Thr Leu Thr Tyr Phe Phe Leu Gln
50 55 60

His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
65 70 75 80

Met Leu Gln Ser Phe Thr Glu Glu Lys Asn Leu Met Leu Phe Gln Gly
85 90 95

Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
100 105 110

Tyr Leu Leu Ala Met Met Ala Val Asp Pro Tyr Val Ala Ile Cys Lys
115 120 125

Pro Leu His Tyr Thr Val Ile Met Ser Arg Thr Val Cys Ile Arg Leu

16U 200 PCT FINAL.ST25

130	135	140
Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val Gln Thr		
145	150	155
160		
Gly Phe Thr Cys Ser Leu Ser Phe Cys Lys Ser Asn Ser Ile Asn His		
165	170	175
Phe Phe Cys Asp Val Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Val		
180	185	190
Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Ser Asn Leu Ile		
195	200	205
Phe Thr Gly Leu Val Val Ile Phe Ser Tyr Ile Tyr Ile Met Ala Thr		
210	215	220
Ile Leu Lys Met Ser Ser Ser Ala Gly Arg Lys Lys Ser Phe Ser Thr		
225	230	235
240		
Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser		
245	250	255
Tyr Met Tyr Leu Gln Ser His Ser Asn Asn Ser Gln Glu Asn Met Lys		
260	265	270
Val Ala Phe Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu		
275	280	285
Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Lys Val Ile		
290	295	300
305		
Gly Lys Lys Leu Phe		
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<222> (1)..(522)		
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Met Leu Gln Ser Phe Thr Glu Glu Lys Asn Leu Ile Ser Phe Trp Gly		
1	5	10
15		
48		
tgc atg ata caa tta ttg gtt tat gca aca ttt gca acc agt gac tgt		
Cys Met Ile Gln Leu Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys		
20	25	30
96		
tat ctc ctg gct atg ata gca gtg gac cat tat gtt gca atc tgt aag		
Tyr Leu Ala Met Ile Ala Val Asp His Tyr Val Ala Ile Cys Lys		
35	40	45
144		
ccc ctt cac tat acc gta atc acg tcc caa aca gtc tgc atc cat ttg		
Pro Leu His Tyr Thr Val Ile Thr Ser Gln Thr Val Cys Ile His Leu		
50	55	60
192		
gta gct ggt tca tac atc atg ggc tca ata aat gcc tct gta cat aca		
Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val His Thr		
65	70	75
80		
240		
ggt ttt gca ttt tca ctg tct ttc tgc aag tcc aat aac atc aac cac		
288		

16U 200 PCT FINAL.ST25
 Gly Phe Ala Phe Ser Leu Ser Phe Cys Lys Ser Asn Asn Ile Asn His
 85 90 95
 ttt ttc tgt gat ggt ccc cca att ctt gcc ctt tca tgc tcc aat att 336
 Phe Phe Cys Asp Gly Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile
 100 105 110
 gac atc aac atc atg cta ctt gtc ttt gtg gga ttt aac ttg atg 384
 Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Phe Asn Leu Met
 115 120 125
 ttc act ggg ttg gag aat atg aaa gtg gcc tct ata ttt tat ggc act 432
 Phe Thr Gly Leu Glu Asn Met Lys Val Ala Ser Ile Phe Tyr Gly Thr
 130 135 140
 gtt att ccc atg ttg aat cct tta atc tat agc ttg aga aat aag gaa 480
 Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu
 145 150 155 160
 gta aaa gaa gct tta aaa ttg ata ggg aaa aag ttc ttt taa 522
 Val Lys Glu Ala Leu Lys Leu Ile Gly Lys Lys Phe Phe
 165 170

<210> 190
<211> 173
<212> PRT
<213> Homo sapiens

<400> 190

Met Leu Gln Ser Phe Thr Glu Glu Lys Asn Leu Ile Ser Phe Trp Gly
 1 5 10 15

Cys Met Ile Gln Leu Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
 20 25 30

Tyr Leu Leu Ala Met Ile Ala Val Asp His Tyr Val Ala Ile Cys Lys
 35 40 45

Pro Leu His Tyr Thr Val Ile Thr Ser Gln Thr Val Cys Ile His Leu
 50 55 60

Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val His Thr
 65 70 75 80

Gly Phe Ala Phe Ser Leu Ser Phe Cys Lys Ser Asn Asn Ile Asn His
 85 90 95

Phe Phe Cys Asp Gly Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile
 100 105 110

Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Phe Asn Leu Met
 115 120 125

Phe Thr Gly Leu Glu Asn Met Lys Val Ala Ser Ile Phe Tyr Gly Thr
 130 135 140

Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu
 145 150 155 160

Val Lys Glu Ala Leu Lys Leu Ile Gly Lys Lys Phe Phe
 165 170

<210> 191
<211> 499
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16U 200 PCT FINAL.ST25

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<222> (43)...(372)

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 Met Ser Gln Arg
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 Leu Cys Ile Lys Leu Leu Val Ser Ser Tyr Val Met Gly Phe Leu Asn
 5 10 15 20

gcc tct ata aac ata agt ttc act ttc tca ttg aac ttc tgc aaa tcc 150
 Ala Ser Ile Asn Ile Ser Phe Thr Phe Ser Leu Asn Phe Cys Lys Ser
 25 30 35

aaa aca att aat cac ttt ttc tgt gat gaa cct cca att att gcc cta 198
 Lys Thr Ile Asn His Phe Phe Cys Asp Glu Pro Pro Ile Ile Ala Leu
 40 45 50

cca tgc tcc aat att gac ctc aac atc atg tta tta aca gta ttt gtg 246
 Pro Cys Ser Asn Ile Asp Leu Asn Ile Met Leu Leu Thr Val Phe Val
 55 60 65

gga tta aat ttg atg tgc act gtg atg gtg gtc atc att tcc tgc ata 294
 Gly Leu Asn Leu Met Cys Thr Val Met Val Val Ile Ile Ser Cys Ile
 70 75 80

tat gtc ctg gtt gcc atc ctg agg ata tct tct gct gca ggg aag aaa 342
 Tyr Val Leu Val Ala Ile Leu Arg Ile Ser Ser Ala Ala Gly Lys Lys
 85 90 95 100

aaa gtc tct cta cat gtg cct ccc acc tga cagcagtcac cattttctat 392
 Lys Val Ser Leu His Val Pro Pro Thr
 105

ggggttctct cttacatgtta tctatgccat cgtattaatg agtctaaaa acaagaaaaa 452
 gtggcctctg tggggatgg cattattatt cccatgttaa acccctt 499

<210> 192

<211> 109

<212> PRT

<213> Homo sapiens

<400> 192

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Gly Phe Leu Asn Ala Ser Ile Asn Ile Ser Phe Thr Phe Ser Leu Asn
 20 25 30

Phe Cys Lys Ser Lys Thr Ile Asn His Phe Phe Cys Asp Glu Pro Pro
 35 40 45

Ile Ile Ala Leu Pro Cys Ser Asn Ile Asp Leu Asn Ile Met Leu Leu
 50 55 60

Thr Val Phe Val Gly Leu Asn Leu Met Cys Thr Val Met Val Val Ile
 65 70 75 80

Ile Ser Cys Ile Tyr Val Leu Val Ala Ile Leu Arg Ile Ser Ser Ala
 85 90 95

Ala Gly Lys Lys Val Ser Leu His Val Pro Pro Thr
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16U 200 PCT FINAL.ST25

<210> 193
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 1 5 10 15
 cg gcc aca ttc cca gag tta tgt gcc agt ctt gtt gag gct tca cac 96
 Arg Ala Thr Phe Pro Glu Leu Cys Ala Ser Leu Val Glu Ala Ser His
 20 25 30
 ctt ggc ggc ttt gta aac tca acc atc atc acc agt gag aca cct acc 144
 Leu Gly Phe Val Asn Ser Thr Ile Ile Thr Ser Glu Thr Pro Thr
 35 40 45
 ttg agc ttc tgt ggc agc aat atc att gat gat ttc ttc tgt gat ctg 192
 Leu Ser Phe Cys Gly Ser Asn Ile Ile Asp Asp Phe Phe Cys Asp Leu
 50 55 60
 ccc cca ctt gta aag ttg tgt gat gtg aag gag cgc tac cag gct 240
 Pro Pro Leu Val Lys Leu Val Cys Asp Val Lys Glu Arg Tyr Gln Ala
 65 70 75 80
 gtg ctg cat ttt atg ctt gcc aat cat cac tcc cac tgc act tat 288
 Val Leu His Phe Met Leu Ala Ser Asn His His Ser His Cys Thr Tyr
 85 90 95
 tct tgc gtc cat ctc ttc atc att gca gcc atc tcg aag atc cgt tcc 336
 Ser Cys Val His Leu Phe Ile Ile Ala Ala Ile Ser Lys Ile Arg Ser
 100 105 110
 att aag ggc cgc ctc cag gtc ttc tcc act tgt ggg tct ccc ctg acg 384
 Ile Lys Gly Arg Leu Gln Val Phe Ser Thr Cys Gly Ser Pro Leu Thr
 115 120 125
 gct ctc acc ttg tac tat ggt gca atc ttc ttt att tac tcc caa cca 432
 Ala Leu Thr Leu Tyr Tyr Gly Ala Ile Phe Phe Ile Tyr Ser Gln Pro
 130 135 140
 aga act agc tat gcc tta aaa atg gat aaa ttg ggg tca gtg ttc tat 480
 Arg Thr Ser Tyr Ala Leu Lys Met Asp Lys Leu Gly Ser Val Phe Tyr
 145 150 155 160
 act gtg gtg att cca atg cta aac ccc ttg atc tat agc tta aga aat 528
 Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn
 165 170 175
 aag gat gtc aaa gat gcc ttg aag aaa atg tta gat aga ctt cag ttt 576
 Lys Asp Val Lys Asp Ala Leu Lys Lys Met Leu Asp Arg Leu Gln Phe
 180 185 190
 ctt aaa gaa aaa tat tgt aga tat ggg ctg gcc tgt agt gag cgc tac 624
 Leu Lys Glu Lys Tyr Cys Arg Tyr Gly Leu Ala Cys Ser Glu Arg Tyr
 195 200 205
 ctc ctg gct gcc atg ggt tat gac tgc tat gag gca atc tcc aag ccc 672
 Leu Leu Ala Ala Met Gly Tyr Asp Cys Tyr Glu Ala Ile Ser Lys Pro
 210 215 220
 ctg ctt taa 681
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<210> 194
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16U 200 PCT FINAL.ST25

Met Ala Tyr Asp Arg Tyr Met Ala Ile Ser Lys Pro Leu Leu Tyr Ser
 1 5 10 15

Arg Ala Thr Phe Pro Glu Leu Cys Ala Ser Leu Val Glu Ala Ser His
 20 25 30

Leu Gly Gly Phe Val Asn Ser Thr Ile Ile Thr Ser Glu Thr Pro Thr
 35 40 45

Leu Ser Phe Cys Gly Ser Asn Ile Ile Asp Asp Phe Phe Cys Asp Leu
 50 55 60

Pro Pro Leu Val Lys Leu Val Cys Asp Val Lys Glu Arg Tyr Gln Ala
 65 70 75 80

Val Leu His Phe Met Leu Ala Ser Asn His His Ser His Cys Thr Tyr
 85 90 95

Ser Cys Val His Leu Phe Ile Ile Ala Ala Ile Ser Lys Ile Arg Ser
 100 105 110

Ile Lys Gly Arg Leu Gln Val Phe Ser Thr Cys Gly Ser Pro Leu Thr
 115 120 125

Ala Leu Thr Leu Tyr Tyr Gly Ala Ile Phe Phe Ile Tyr Ser Gln Pro
 130 135 140

Arg Thr Ser Tyr Ala Leu Lys Met Asp Lys Leu Gly Ser Val Phe Tyr
 145 150 155 160

Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn
 165 170 175

Lys Asp Val Lys Asp Ala Leu Lys Lys Met Leu Asp Arg Leu Gln Phe
 180 185 190

Leu Lys Glu Lys Tyr Cys Arg Tyr Gly Leu Ala Cys Ser Glu Arg Tyr
 195 200 205

Leu Leu Ala Ala Met Gly Tyr Asp Cys Tyr Glu Ala Ile Ser Lys Pro
 210 215 220

Leu Leu
 225

<210> 195
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 1 5 10 15

tcg gat gcc ggc acc agc tgc ccc gtc ctt tgc aca tgc cgt aac cag 96
 Ser Asp Ala Gly Thr Ser Cys Pro Val Leu Cys Thr Cys Arg Asn Gln
 20 25 30

16U 200 PCT FINAL.ST25

gtg gtg gat tgt agc agc cag cgg cta ttc tcc gtg ccc cca gac ctg	144
Val Val Asp Cys Ser Ser Gln Arg Leu Phe Ser Val Pro Pro Asp Leu	
35 40 45	
cca atg gac acc cga aac ctc agc ctg gcc cac aac cgc atc aca gca	192
Pro Met Asp Thr Arg Asn Leu Ser Ala His Asn Arg Ile Thr Ala	
50 55 60	
gtg ccg cct ggc tac ctc aca tgc tac atg gag ctc cag gtg ctg gat	240
Val Pro Pro Gly Tyr Leu Thr Cys Tyr Met Glu Leu Gln Val Leu Asp	
65 70 75 80	
ttg cac aac aac tcc tta atg gag ctg ccc cgg ggc ctc ttc ctc cat	288
Leu His Asn Asn Ser Leu Met Glu Leu Pro Arg Gly Leu Phe Leu His	
85 90 95	
gcc aag cgc ttg gca cac ttg gac ctg agc tac aac aat ttc agc cat	336
Ala Lys Arg Leu Ala His Leu Asp Leu Ser Tyr Asn Asn Phe Ser His	
100 105 110	
gtg cca gcc gac atg ttc cag gag gcc cat ggg cta gtc cac atc gac	384
Val Pro Ala Asp Met Phe Gln Glu Ala His Gly Leu Val His Ile Asp	
115 120 125	
ctg agc cac aac ccc tgg ctg cgg agg gtg cat ccc cag gcc ttt cag	432
Leu Ser His Asn Pro Trp Leu Arg Arg Val His Pro Gln Ala Phe Gln	
130 135 140	
ggc ctc atg cag ctc cga gac ctg gac ctc agt tat ggg ggc ctg gcc	480
Gly Leu Met Gln Leu Arg Asp Leu Asp Leu Ser Tyr Gly Leu Ala	
145 150 155 160	
ttc ctc agc ctg gag gct ctt gag ggc cta ccg ggg ctg gtg acc ctg	528
Phe Leu Ser Leu Glu Ala Leu Glu Gly Leu Pro Gly Leu Val Thr Leu	
165 170 175	
cag atc ggt ggc aat ccc tgg gtg tgt ggc tgc acc atg gaa ccc ctg	576
Gln Ile Gly Gly Asn Pro Trp Val Cys Gly Cys Thr Met Glu Pro Leu	
180 185 190	
ctg aag tgg ctg cga aac cgg atc cag cgc tgt aca gca gag tca ggt	624
Leu Lys Trp Leu Arg Asn Arg Ile Gln Arg Cys Thr Ala Glu Ser Gly	
195 200 205	
tct ggc ctg ccg gaa gag tca gaa cct gag tcc tgg act ggc caa agg	672
Ser Gly Leu Pro Glu Glu Ser Glu Pro Glu Ser Trp Thr Gly Gln Arg	
210 215 220	
gct gca gta gag ttc cag gac ctc atg cag ctc caa gac ctg gat ctc	720
Ala Ala Val Glu Phe Gln Asp Leu Met Gln Leu Gln Asp Leu Asp Leu	
225 230 235 240	
agc tac gag aac ctg gct ttc ctc aaa ctc aag gcc ctg agc agt gta	768
Ser Tyr Glu Asn Leu Ala Phe Leu Lys Leu Lys Ala Leu Ser Ser Val	
245 250 255	
aac ttt ggg cac agg caa gcg gtt gtg ggt gga ctt tcc aat ccc ctc	816
Asn Phe Gly His Arg Gln Ala Val Val Gly Gly Leu Ser Asn Pro Leu	
260 265 270	
tcc ttc cct ggg tac ctc acc ctc cct ggc ttc tgt gtt aca gat tct	864
Ser Phe Pro Gly Tyr Leu Thr Leu Pro Gly Phe Cys Val Thr Asp Ser	
275 280 285	
cag ctg gag tgc cgg ggc cct cct gaa gtc gag ggc gcc ccg ctc	912
Gln Leu Ala Glu Cys Arg Gly Pro Pro Glu Val Glu Gly Ala Pro Leu	
290 295 300	
ttc tca ctc act gag gag agc ttc aag gcc tgc cac ctg acc ctg acc	960
Phe Ser Leu Thr Glu Glu Ser Phe Lys Ala Cys His Leu Thr Leu Thr	
305 310 315 320	
ctg gat gat tac cta ttc att gcg ttc gtg ggc ttc gtg gtc tcc att	1008
Leu Asp Asp Tyr Leu Phe Ile Ala Phe Val Gly Phe Val Val Ser Ile	
325 330 335	
gct tct gtg gcc acc aac ttc ctc ctg ggc atc act gcc aac tgc tgc	1056
Ala Ser Val Ala Thr Asn Phe Leu Leu Gly Ile Thr Ala Asn Cys Cys	
340 345 350	

16U 200 PCT FINAL.ST25

cac cgc tgg agc aag gcc agt gaa gag gaa gag atc tga 1095
His Arg Trp Ser Lys Ala Ser Glu Glu Glu Glu Ile
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Val Val Asp Cys Ser Ser Gln Arg Leu Phe Ser Val Pro Pro Asp Leu
35 40 45

Pro Met Asp Thr Arg Asn Leu Ser Leu Ala His Asn Arg Ile Thr Ala
50 55 60

Val Pro Pro Gly Tyr Leu Thr Cys Tyr Met Glu Leu Gln Val Leu Asp
65 70 75 80

Leu His Asn Asn Ser Leu Met Glu Leu Pro Arg Gly Leu Phe Leu His
85 90 95

Ala Lys Arg Leu Ala His Leu Asp Leu Ser Tyr Asn Asn Phe Ser His
100 105 110

Val Pro Ala Asp Met Phe Gln Glu Ala His Gly Leu Val His Ile Asp
115 120 125

Leu Ser His Asn Pro Trp Leu Arg Arg Val His Pro Gln Ala Phe Gln
130 135 140

Gly Leu Met Gln Leu Arg Asp Leu Asp Leu Ser Tyr Gly Gly Leu Ala
145 150 155 160

Phe Leu Ser Leu Glu Ala Leu Glu Gly Leu Pro Gly Leu Val Thr Leu
165 170 175

Gln Ile Gly Gly Asn Pro Trp Val Cys Gly Cys Thr Met Glu Pro Leu
180 185 190

Leu Lys Trp Leu Arg Asn Arg Ile Gln Arg Cys Thr Ala Glu Ser Gly
195 200 205

Ser Gly Leu Pro Glu Glu Ser Glu Pro Glu Ser Trp Thr Gly Gln Arg
210 215 220

Ala Ala Val Glu Phe Gln Asp Leu Met Gln Leu Gln Asp Leu Asp Leu
225 230 235 240

Ser Tyr Glu Asn Leu Ala Phe Leu Lys Leu Lys Ala Leu Ser Ser Val
245 250 255

Asn Phe Gly His Arg Gln Ala Val Val Gly Gly Leu Ser Asn Pro Leu
260 265 270

16U 200 PCT FINAL.ST25

Ser Phe Pro Gly Tyr Leu Thr Leu Pro Gly Phe Cys Val Thr Asp Ser
275 280 285

Gln Leu Ala Glu Cys Arg Gly Pro Pro Glu Val Glu Gly Ala Pro Leu
290 295 300

Phe Ser Leu Thr Glu Glu Ser Phe Lys Ala Cys His Leu Thr Leu Thr
305 310 315 320

Leu Asp Asp Tyr Leu Phe Ile Ala Phe Val Gly Phe Val Val Ser Ile
325 330 335

Ala Ser Val Ala Thr Asn Phe Leu Leu Gly Ile Thr Ala Asn Cys Cys
340 345 350

His Arg Trp Ser Lys Ala Ser Glu Glu Glu Glu Ile
355 360

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27

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34

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32

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35

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33

16U 200 PCT FINAL.ST25

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<210> 214
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ttc act gaa tat cct gaa tgg gca ctc cct ctc ttc ctc ttg ttt tta 96
Phe Thr Glu Tyr Pro Glu Trp Ala Leu Pro Leu Phe Leu Leu Phe Leu
20 25 30

ttt atg tat ctc atc acc gta ttg ggg aac tta gag atg att att ctg 144
Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu
35 40 45

atc ctc atg gat cac cag ctc cac gct cca atg tat ttc ctt ctg agt 192
Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser
50 55 60

cac ctc gct ttc atg gac gtc tgc tac tca tct atc act gtc ccc cag 240
His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln
65 70 75 80

atg ctg gca gtc ctg ctg gag cat ggg gca gct tta tct tac aca cgc 288
Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg
85 90 95

tgt gct gct cag ttc ttt ctg ttc acc ttc ttt ggt tcc atc gac tgc 336
Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys
100 105 110

tac ctc ttg gcc ctc atg gcc tat gac cgc tac ttg gct gtc tgc cag 384
Tyr Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln
115 120 125

ccc ctg ctt tat gtc acc atc ctg aca cag cag gcc cgc ttg agt ctt 432
Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu
130 135 140

gtg gct ggg gct tac gtt gct ggt ctc atc agt gcc ttg gtg cgg aca 480
Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr
145 150 155 160

gtc tca gcc ttc act ctc tcc ttc tgt gga acc agt gag att gac ttt 528
Val Ser Ala Phe Thr Leu Ser Phe Cys Gly Thr Ser Glu Ile Asp Phe
165 170 175

att ttc tgt gac ctc cct ctg tta aag ttg acc tgt ggg gag agc 576
Ile Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Thr Cys Gly Glu Ser
180 185 190

16U 200 PCT FINAL.ST25

tac actcaa gaa gtg ctg att att atg ttt gcc att ttt gtc atc cct Tyr Thr Gln Glu Val Leu Ile Ile Met Phe Ala Ile Phe Val Ile Pro 195 200 205	624
gct tcc atg gtg gtg atc ttg gtg tcc tac ctg ttt atc atc gtc gcc Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Val Ala 210 215 220	672
atc atg ggg atc cct gct gga agc cag gcc aag acc ttc tcc acc tgc Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys 225 230 235 240	720
acc tcc cac ctc act gct gtg tca ctc ttc ttt ggt acc ctc atc ttc Thr Ser His Leu Thr Ala Val Ser Leu Phe Phe Gly Thr Leu Ile Phe 245 250 255	768
atg tac ttg aga ggt aac tca gat cag tct tcg gag aag aat cgg gta Met Tyr Leu Arg Gly Asn Ser Asp Gln Ser Ser Glu Lys Asn Arg Val 260 265 270	816
gtg tct gtg ctt tac aca gag gtc atc ccc atg ttg aat ccc ctc atc Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile 275 280 285	864
tac agc ctg agg aac aag gaa gtg aag gag gcc ctg aga aaa att ctc Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Arg Lys Ile Leu 290 295 300	912
aat aga gcc aag ttg tcc taa Asn Arg Ala Lys Leu Ser 305 310	933

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<211> 310
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Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu
35 40 45

Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser
50 55 60

His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln
65 70 75 80

Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg
85 90 95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys
100 105 110

Tyr Leu Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln
115 120 125

Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu
130 135 140

Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr
145 150 155 160

16U 200 PCT FINAL.ST25

Val Ser Ala Phe Thr Leu Ser Phe Cys Gly Thr Ser Glu Ile Asp Phe
 165 170 175

Ile Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Thr Cys Gly Glu Ser
 180 185 190

Tyr Thr Gln Glu Val Leu Ile Ile Met Phe Ala Ile Phe Val Ile Pro
 195 200 205

Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Ile Val Ala
 210 215 220

Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys
 225 230 235 240

Thr Ser His Leu Thr Ala Val Ser Leu Phe Phe Gly Thr Leu Ile Phe
 245 250 255

Met Tyr Leu Arg Gly Asn Ser Asp Gln Ser Ser Glu Lys Asn Arg Val
 260 265 270

Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile
 275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Arg Lys Ile Leu
 290 295 300

Asn Arg Ala Lys Leu Ser
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<210> 216

<211> 933

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<213> Homo sapiens

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<222> (1)...(930)

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<400> 216

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 1 5 10 15

48

cag gtt ggt cca gca ctg gag att ctc ctc tgt gga ctt ttc tct gcc
 Gln Val Gly Pro Ala Leu Glu Ile Leu Leu Cys Gly Leu Phe Ser Ala
 20 25 30

96

ttc tat aca ctc acc ctg ctg ggg aat ggg gtc atc ttt ggg att atc
 Phe Tyr Thr Leu Thr Leu Leu Gly Asn Gly Val Ile Phe Gly Ile Ile
 35 40 45

144

tgc ctg gac tgt aag ctt cac aca ccc atg tac ttc ttc ctc tca cac
 Cys Leu Asp Cys Lys Leu His Thr Pro Met Tyr Phe Phe Leu Ser His
 50 55 60

192

ctg gcc att gtt gac ata tcc tat gct tcc aac tat gtc ccc aag atg
 Leu Ala Ile Val Asp Ile Ser Tyr Ala Ser Asn Tyr Val Pro Lys Met
 65 70 75 80

240

ctg acg aat ctt atg aac cag gaa agc acc atc tcc ttt ttt cca tgc
 Leu Thr Asn Leu Met Asn Gln Glu Ser Thr Ile Ser Phe Phe Pro Cys
 85 90 95

288

ata atg cag aca ttc ttg tat ttg gct ttt gct cac gta gag tgt ctg
 Ile Met Gln Thr Phe Leu Tyr Ala Phe Ala His Val Glu Cys Leu

336

16U 200 PCT FINAL.ST25

100	105	110	
att ttg gtg gtg atg tcc tat gat cgc tat gcg gac atc tgc cac ccc Ile Leu Val Val Met Ser Tyr Asp Arg Tyr Ala Asp Ile Cys His Pro 115 120 125			384
tta cgt tac aat agc ctc atg agc tgg aga gtc act gtc ctg gct Leu Arg Tyr Asn Ser Leu Met Ser Trp Arg Val Cys Thr Val Leu Ala 130 135 140			432
gtg gct tcc tgg gtg ttc agc ttc ctc ctg gct ctg gtc cct tta gtt Val Ala Ser Trp Val Phe Ser Phe Leu Leu Ala Leu Val Pro Leu Val 145 150 155 160			480
ctc atc ctg agc ctc ccc ttc tgc ggg cct cat gaa atc aac cac ttc Leu Ile Leu Ser Leu Pro Phe Cys Gly Pro His Glu Ile Asn His Phe 165 170 175			528
ttc tgt gaa atc ctg tct gtc ctc aag ttg gcc tgt gct gac acc tgg Phe Cys Glu Ile Leu Ser Val Leu Lys Leu Ala Cys Ala Asp Thr Trp 180 185 190			576
ctc aac cag gtg gtc atc ttt gca gcc tgc gtg ttc atc ctg gtg ggg Leu Asn Gln Val Val Ile Phe Ala Ala Cys Val Phe Ile Leu Val Gly 195 200 205			624
cca ctc tgc ctg gtg gtc tcc tac ttg cgc atc ctg gcc gac atc Pro Leu Cys Leu Val Leu Val Ser Tyr Leu Arg Ile Leu Ala Ala Ile 210 215 220			672
ttg agg atc cag tct ggg gag ggc cgc aga aag gcc ttc tcc acc tgc Leu Arg Ile Gln Ser Gly Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys 225 230 235 240			720
tcc tcc cac ctt tgc gtg gga ctc ttc ttt ggc agc gcc att gtc Ser Ser His Leu Cys Val Val Gly Leu Phe Phe Gly Ser Ala Ile Val 245 250 255			768
acg tac atg gcc ccc aag tcc cgc cat cct gag gag gag cag aaa gtt Thr Tyr Met Ala Pro Lys Ser Arg His Pro Glu Glu Gln Gln Lys Val 260 265 270			816
ctt tcc ctg ttt tac agc ctt ttc aat cca atg ctg aac ccc ctg ata Leu Ser Leu Phe Tyr Ser Leu Phe Asn Pro Met Leu Asn Pro Leu Ile 275 280 285			864
tat agc cta agg aat gca gag gtc aag ggc gcc ctg agg agg gca ctg Tyr Ser Leu Arg Asn Ala Glu Val Lys Gly Ala Leu Arg Arg Ala Leu 290 295 300			912
agg aag gag agg ctg acg tga Arg Lys Glu Arg Leu Thr 305 310			933

<210> 217

<211> 310

<212> PRT

<213> Homo sapiens

<400> 217

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Gln Val Gly Pro Ala Leu Glu Ile Leu Leu Cys Gly Leu Phe Ser Ala
20 25 30

Phe Tyr Thr Leu Thr Leu Leu Gly Asn Gly Val Ile Phe Gly Ile Ile
35 40 45

Cys Leu Asp Cys Lys Leu His Thr Pro Met Tyr Phe Phe Leu Ser His
50 55 60

Leu Ala Ile Val Asp Ile Ser Tyr Ala Ser Asn Tyr Val Pro Lys Met

65	70	16U 200 PCT FINAL.ST25 75 80
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Leu Thr Asn Leu Met Asn Gln Glu Ser Thr Ile Ser Phe Phe Pro Cys
85 90 95

Ile Met Gln Thr Phe Leu Tyr Leu Ala Phe Ala His Val Glu Cys Leu
100 105 110

Ile Leu Val Val Met Ser Tyr Asp Arg Tyr Ala Asp Ile Cys His Pro
115 120 125

Leu Arg Tyr Asn Ser Leu Met Ser Trp Arg Val Cys Thr Val Leu Ala
130 135 140

Val Ala Ser Trp Val Phe Ser Phe Leu Leu Ala Leu Val Pro Leu Val
145 150 155 160

Leu Ile Leu Ser Leu Pro Phe Cys Gly Pro His Glu Ile Asn His Phe
165 170 175

Phe Cys Glu Ile Leu Ser Val Leu Lys Leu Ala Cys Ala Asp Thr Trp
180 185 190

Leu Asn Gln Val Val Ile Phe Ala Ala Cys Val Phe Ile Leu Val Gly
195 200 205

Pro Leu Cys Leu Val Leu Val Ser Tyr Leu Arg Ile Leu Ala Ala Ile
210 215 220

Leu Arg Ile Gln Ser Gly Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys
225 230 235 240

Ser Ser His Leu Cys Val Val Gly Leu Phe Phe Gly Ser Ala Ile Val
245 250 255

Thr Tyr Met Ala Pro Lys Ser Arg His Pro Glu Glu Gln Gln Lys Val
260 265 270

Leu Ser Leu Phe Tyr Ser Leu Phe Asn Pro Met Leu Asn Pro Leu Ile
275 280 285

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290 295 300

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48

att tct aac tat cct caa tgg aga gac acg ttt ttc aca tta gtg ctg
96

16U 200 PCT FINAL.ST25

Ile Ser Asn Tyr Pro Gln Trp Arg Asp Thr Phe Phe Thr Leu Val Leu			
20	25	30	
ata att tac ctc agc aca ttg ttg ggg aat gga ttt atg atc ttt ctt			144
Ile Ile Tyr Leu Ser Thr Leu Leu Gly Asn Gly Phe Met Ile Phe Leu			
35	40	45	
att cac ttt gac ccc aac ctc cac act cca atc tac ttc ttc ctt agt			192
Ile His Phe Asp Pro Asn Leu His Thr Pro Ile Tyr Phe Phe Leu Ser			
50	55	60	
aac ctg tct ttc tta gac ctt tgt tat gga aca gct tcc atg ccc cag			240
Asn Leu Ser Phe Leu Asp Leu Cys Tyr Gly Thr Ala Ser Met Pro Gln			
65	70	75	80
gct ttg gtg cat tgt ttc tct acc cat ccc tac ctc tct tat ccc cga			288
Ala Leu Val His Cys Phe Ser Thr His Pro Tyr Leu Ser Tyr Pro Arg			
85	90	95	
tgt ttg gct caa acg agt gtc tcc ttg gct ttg gcc aca gca gag tgc			336
Cys Leu Ala Gln Thr Ser Val Ser Leu Ala Leu Ala Thr Ala Glu Cys			
100	105	110	
ctc cta ctg gct gcc atg gcc tat gac cgt gtg gtt gct atc agc aat			384
Leu Leu Ala Ala Met Ala Tyr Asp Arg Val Val Ala Ile Ser Asn			
115	120	125	
ccc ctg cgt tat tca gtg gtt atg aat ggc cca gta tgt gtc tgc ttg			432
Pro Leu Arg Tyr Ser Val Val Met Asn Gly Pro Val Cys Val Cys Leu			
130	135	140	
gtt gct acc tca tgg ggg aca tca ctt gtg ctc act gcc atg ctc atc			480
Val Ala Thr Ser Trp Gly Thr Ser Leu Val Leu Thr Ala Met Leu Ile			
145	150	155	160
cta tcc ctg agg ctt cac ttc tgt ggg gct aat gtc atc aac cat ttt			528
Leu Ser Leu Arg Leu His Phe Cys Gly Ala Asn Val Ile Asn His Phe			
165	170	175	
gcc tgt gag att ctc tcc ctc att aag ctg acc tgt tct gat acc agc			576
Ala Cys Glu Ile Leu Ser Leu Ile Lys Leu Thr Cys Ser Asp Thr Ser			
180	185	190	
ctc aat gaa ttt atg atc ctc atc acc agt atc ttc acc ctg ctg cta			624
Leu Asn Glu Phe Met Ile Leu Ile Thr Ser Ile Phe Thr Leu Leu Leu			
195	200	205	
cca ttt ggg ttt ctc ctc tcc tac ata cga att gct atg gct atc			672
Pro Phe Gly Phe Val Leu Leu Ser Tyr Ile Arg Ile Ala Met Ala Ile			
210	215	220	
ata agg att cgc tca ctc cag ggc agg ctc aag gcc ttt acc aca tgt			720
Ile Arg Ile Arg Ser Leu Gln Gly Arg Leu Lys Ala Phe Thr Thr Cys			
225	230	235	240
ggc tct cac ctg acc gtg gtg aca atc ttc tat ggg tca gcc atc tcc			768
Gly Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly Ser Ala Ile Ser			
245	250	255	
atg tat atg aaa act cag tcc aag tcc tac cct gac cag gac aag ttt			816
Met Tyr Met Lys Thr Gln Ser Lys Ser Tyr Pro Asp Gln Asp Lys Phe			
260	265	270	
atc tca gtg ttt tat gga gct ttg aca ccc atg ttg aac ccc ctg ata			864
Ile Ser Val Phe Tyr Gly Ala Leu Thr Pro Met Leu Asn Pro Leu Ile			
275	280	285	
tat agc ctg aga aaa aaa gat gtt aaa cgg gca ata agg aaa gtt atg			912
Tyr Ser Leu Arg Lys Lys Asp Val Lys Arg Ala Ile Arg Lys Val Met			
290	295	300	
ttg aaa agg aca tga			927
Leu Lys Arg Thr			
305			

<210> 219
<211> 308
<212> PRT

16U 200 PCT FINAL.ST25

<213> Homo sapiens

<400> 219

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35 40 45Ile His Phe Asp Pro Asn Leu His Thr Pro Ile Tyr Phe Phe Leu Ser
50 55 60Asn Leu Ser Phe Leu Asp Leu Cys Tyr Gly Thr Ala Ser Met Pro Gln
65 70 75 80Ala Leu Val His Cys Phe Ser Thr His Pro Tyr Leu Ser Tyr Pro Arg
85 90 95Cys Leu Ala Gln Thr Ser Val Ser Leu Ala Leu Ala Thr Ala Glu Cys
100 105 110Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Val Val Ala Ile Ser Asn
115 120 125Pro Leu Arg Tyr Ser Val Val Met Asn Gly Pro Val Cys Val Cys Leu
130 135 140Val Ala Thr Ser Trp Gly Thr Ser Leu Val Leu Thr Ala Met Leu Ile
145 150 155 160Leu Ser Leu Arg Leu His Phe Cys Gly Ala Asn Val Ile Asn His Phe
165 170 175Ala Cys Glu Ile Leu Ser Leu Ile Lys Leu Thr Cys Ser Asp Thr Ser
180 185 190Leu Asn Glu Phe Met Ile Leu Ile Thr Ser Ile Phe Thr Leu Leu
195 200 205Pro Phe Gly Phe Val Leu Leu Ser Tyr Ile Arg Ile Ala Met Ala Ile
210 215 220Ile Arg Ile Arg Ser Leu Gln Gly Arg Leu Lys Ala Phe Thr Thr Cys
225 230 235 240Gly Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly Ser Ala Ile Ser
245 250 255Met Tyr Met Lys Thr Gln Ser Lys Ser Tyr Pro Asp Gln Asp Lys Phe
260 265 270Ile Ser Val Phe Tyr Gly Ala Leu Thr Pro Met Leu Asn Pro Leu Ile
275 280 285Tyr Ser Leu Arg Lys Lys Asp Val Lys Arg Ala Ile Arg Lys Val Met
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16U 200 PCT FINAL.ST25

Leu Lys Arg Thr
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<210> 220
<211> 1008
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1 5 10 15	
ctc atc att gct act aac aca cta gtg gct gtg gct ctg ctg ttg	96
Leu Ile Ala Thr Asn Thr Leu Val Ala Val Ala Val Leu Leu Leu	
20 25 30	
atc cac aag aat gat ggt gtc agt ctc tgc ttc acc ttg aat ctg gct	144
Ile His Lys Asn Asp Gly Val Ser Leu Cys Phe Thr Leu Asn Leu Ala	
35 40 45	
gtg gct gac acc ttg att ggt gtg gcc atc tct ggc cta ctc aca gac	192
Val Ala Asp Thr Leu Ile Gly Val Ala Ile Ser Gly Leu Leu Thr Asp	
50 55 60	
cag ctc tcc agc cct tct cgg ccc aca cag aag acc ctg tgc agc ctg	240
Gln Leu Ser Ser Pro Ser Arg Pro Thr Gln Lys Thr Leu Cys Ser Leu	
65 70 75 80	
cgg atg gca ttt gtc act tcc tcc gca gct gcc tct gtc ctc acg gtc	288
Arg Met Ala Phe Val Thr Ser Ser Ala Ala Ala Ser Val Leu Thr Val	
85 90 95	
atg ctg atc acc ttt gac agg tac ctt gcc atc aag cag ccc ttc cgc	336
Met Leu Ile Thr Phe Asp Arg Tyr Leu Ala Ile Lys Gln Pro Phe Arg	
100 105 110	
tac ttg aag atc atg agt ggg ttc gtg gcc ggg gcc tgc att gcc ggg	384
Tyr Leu Lys Ile Met Ser Gly Phe Val Ala Gly Ala Cys Ile Ala Gly	
115 120 125	
ctg tgg tta gtg tct tac ctc att ggc ttc ctc cca ctc gga atc ccc	432
Leu Trp Leu Val Ser Tyr Leu Ile Gly Phe Leu Pro Leu Gly Ile Pro	
130 135 140	
atg ttc cag cag act gcc tac aaa ggg cag tgc agc ttc ttt gct gta	480
Met Phe Gln Gln Thr Ala Tyr Lys Gly Gln Cys Ser Phe Phe Ala Val	
145 150 155 160	
ttt cac cct cac ttc gtg ctg acc ctc tcc tgc gtt ggc ttc cca	528
Phe His Pro His Phe Val Leu Thr Leu Ser Cys Val Gly Phe Pro	
165 170 175	
gcc atg ctc ctc ttt gtc ttc tac tgc gac atg ctc aag att gcc	576
Ala Met Leu Leu Phe Val Phe Phe Tyr Cys Asp Met Leu Lys Ile Ala	
180 185 190	
tcc atg cac agc cag cag att cga aag atg gaa cat gca gga gcc atg	624
Ser Met His Ser Gln Gln Ile Arg Lys Met Glu His Ala Gly Ala Met	
195 200 205	
gct gga ggt tat cga tcc cca cgg act ccc agc gac ttc aaa gct ctc	672
Ala Gly Gly Tyr Arg Ser Pro Arg Thr Pro Ser Asp Phe Lys Ala Leu	
210 215 220	
cgt act gtg tct gtt ctc att ggg agc ttt gct cta tcc tgg acc ccc	720
Arg Thr Val Ser Val Leu Ile Gly Ser Phe Ala Leu Ser Trp Thr Pro	
225 230 235 240	
ttc ctt atc act ggc att gtg cag gtg gcc tgc cag gag tgt cac ctc	768
Phe Leu Ile Thr Gly Ile Val Gln Val Ala Cys Gln Glu Cys His Leu	
245 250 255	

16U 200 PCT FINAL.ST25

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Tyr Leu Val Leu Glu Arg Tyr Leu Trp Leu Leu Gly Val Gly Asn Ser	
260 265 270	
ctg ctc aac cca ctc atc tat gcc tat tgg cag aag gag gtg cga ctg	864
Leu Leu Asn Pro Leu Ile Tyr Ala Tyr Trp Gln Lys Glu Val Arg Leu	
275 280 285	
cag ctc tac cac atg gcc cta gga gtg aag aag gtg ctc acc tca ttc	912
Gln Leu Tyr His Met Ala Leu Gly Val Lys Lys Val Leu Thr Ser Phe	
290 295 300	
ctc ctc ttt ctc tcg gcc agg aat tgt ggc cca gag agg ccc agg gaa	960
Leu Leu Phe Leu Ser Ala Arg Asn Cys Gly Pro Glu Arg Pro Arg Glu	
305 310 315 320	
agt tcc tgt cac atc gtc act atc tcc agc tca gag ttt gat ggc taa	1008
Ser Ser Cys His Ile Val Thr Ile Ser Ser Ser Glu Phe Asp Gly	
325 330 335	

<210> 221

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<212> PRT

<213> Homo sapiens

<400> 221

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Ile His Lys Asn Asp Gly Val Ser Leu Cys Phe Thr Leu Asn Leu Ala	
35 40 45	

Val Ala Asp Thr Leu Ile Gly Val Ala Ile Ser Gly Leu Leu Thr Asp	
50 55 60	

Gln Leu Ser Ser Pro Ser Arg Pro Thr Gln Lys Thr Leu Cys Ser Leu	
65 70 75 80	

Arg Met Ala Phe Val Thr Ser Ser Ala Ala Ala Ser Val Leu Thr Val	
85 90 95	

Met Leu Ile Thr Phe Asp Arg Tyr Leu Ala Ile Lys Gln Pro Phe Arg	
100 105 110	

Tyr Leu Lys Ile Met Ser Gly Phe Val Ala Gly Ala Cys Ile Ala Gly	
115 120 125	

Leu Trp Leu Val Ser Tyr Leu Ile Gly Phe Leu Pro Leu Gly Ile Pro	
130 135 140	

Met Phe Gln Gln Thr Ala Tyr Lys Gly Gln Cys Ser Phe Phe Ala Val	
145 150 155 160	

Phe His Pro His Phe Val Leu Thr Leu Ser Cys Val Gly Phe Phe Pro	
165 170 175	

Ala Met Leu Leu Phe Val Phe Phe Tyr Cys Asp Met Leu Lys Ile Ala	
180 185 190	

Ser Met His Ser Gln Gln Ile Arg Lys Met Glu His Ala Gly Ala Met	
195 200 205	

16U 200 PCT FINAL.ST25

Ala Gly Gly Tyr Arg Ser Pro Arg Thr Pro Ser Asp Phe Lys Ala Leu
 210 215 220

Arg Thr Val Ser Val Leu Ile Gly Ser Phe Ala Leu Ser Trp Thr Pro
 225 230 235 240

Phe Leu Ile Thr Gly Ile Val Gln Val Ala Cys Gln Glu Cys His Leu
 245 250 255

Tyr Leu Val Leu Glu Arg Tyr Leu Trp Leu Leu Gly Val Gly Asn Ser
 260 265 270

Leu Leu Asn Pro Leu Ile Tyr Ala Tyr Trp Gln Lys Glu Val Arg Leu
 275 280 285

Gln Leu Tyr His Met Ala Leu Gly Val Lys Lys Val Leu Thr Ser Phe
 290 295 300

Leu Leu Phe Leu Ser Ala Arg Asn Cys Gly Pro Glu Arg Pro Arg Glu
 305 310 315 320

Ser Ser Cys His Ile Val Thr Ile Ser Ser Ser Glu Phe Asp Gly
 325 330 335

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ctg ccg cta acg gac gat gca ccc ccg ggc gcc act gag gag ccg gcg 96
 Leu Pro Leu Thr Asp Asp Ala Pro Pro Gly Ala Thr Glu Glu Pro Ala
 20 25 30

gcc gcc gag gca gct ggg gcg cca gac cgc gtg ggc tct tta ttt gtt 144
 Ala Ala Ala Ala Gly Ala Pro Asp Arg Val Gly Ser Leu Phe Val
 35 40 45

aaa aaa gtg caa gac gtc cat gct gta gag att agt gcg ttt cga tgt 192
 Lys Lys Val Gln Asp Val His Ala Val Glu Ile Ser Ala Phe Arg Cys
 50 55 60

gtg ttc caa atg cta gtt atc cct tgc tta ata tac aga aaa act 240
 Val Phe Gln Met Leu Val Val Ile Pro Cys Leu Ile Tyr Arg Lys Thr
 65 70 75 80

ggg ttt ata ggc cca aaa ggt caa cga att ttc ctc att ctc aga gga 288
 Gly Phe Ile Gly Pro Lys Gly Gln Arg Ile Phe Leu Ile Leu Arg Gly
 85 90 95

gtc ctt ggt tct acc gcc atg atg ctt ata tac tat gct tac cag aca 336
 Val Leu Gly Ser Thr Ala Met Met Leu Ile Tyr Tyr Ala Tyr Gln Thr
 100 105 110

atg tcc ctc gct gat gcc aca gtt atc acg ttt agc agt cca gtg ttt 384
 Met Ser Leu Ala Asp Ala Thr Val Ile Thr Phe Ser Ser Pro Val Phe
 115 120 125

acg tcc ata ttt gct tgg ata tgt ctc aag gaa aaa tat agc cct tgg 432
 Thr Ser Ile Phe Ala Trp Ile Cys Leu Lys Glu Lys Tyr Ser Pro Trp

130	135	140	160 200 PCT FINAL.ST25	
gat gct ctt ttc acc gtg ttc aca atc act gga gtg atc ctt atc gtg Asp Ala Leu Phe Thr Val Phe Thr Ile Thr Gly Val Ile Leu Ile Val	145 150	155	160	480
aga cca cca ttt ttg ttt ggt tcc gac act tcg ggg atg gaa gaa agc Arg Pro Pro Phe Leu Phe Gly Ser Asp Thr Ser Gly Met Glu Glu Ser	165	170	175	528
tat tca ggc cac ctt aag gga aca ttc gca gca att gga agt gcc gta Tyr Ser Gly His Leu Lys Gly Thr Phe Ala Ala Ile Gly Ser Ala Val	180	185	190	576
ttt gct gca tcg act cta gtt atc cta aga aaa atg gga aaa tct gtg Phe Ala Ala Ser Thr Leu Val Ile Leu Arg Lys Met Gly Lys Ser Val	195	200	205	624
gac tac ttt ctg agc att tgg tat tat gta gta ctt ggc ctc gtt gaa Asp Tyr Phe Leu Ser Ile Trp Tyr Tyr Val Val Leu Gly Leu Val Glu	210	215	220	672
agt gtc atc atc ctc tct gta tta gga gag tgg agt ctg cct tac tgt Ser Val Ile Ile Leu Ser Val Leu Gly Glu Trp Ser Leu Pro Tyr Cys	225	230	235	720
ggg ttg gac agg cta ttt ctc ata ttc att ggg ctc ttt ggt ttg ggg Gly Leu Asp Arg Leu Phe Leu Ile Phe Ile Gly Leu Phe Gly Leu Gly	245	250	255	768
ggt cag ata ttt atc aca aaa gca ctt caa ata gaa aaa gca ggg cca Gly Gln Ile Phe Ile Thr Lys Ala Leu Gln Ile Glu Lys Ala Gly Pro	260	265	270	816
gta gca ata atg aag aca atg gat gtg gtc ttt gct ttt atc ttt cag Val Ala Ile Met Lys Thr Met Asp Val Val Phe Ala Phe Ile Phe Gln	275	280	285	864
att att ttc ttt aat aat gtg cca acg tgg tgg aca gtg ggt ggt gct Ile Ile Phe Phe Asn Asn Val Pro Thr Trp Trp Thr Val Gly Gly Ala	290	295	300	912
ctc tgc gta gta gcc agt aat gtt gga gcg gcc att cgt aaa tgg tac Leu Cys Val Val Ala Ser Asn Val Gly Ala Ala Ile Arg Lys Trp Tyr	305	310	315	960
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<210> 223
 <211> 324
 <212> PRT
 <213> Homo sapiens

<400> 223

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Leu Pro Leu Thr Asp Asp Ala Pro Pro Gly Ala Thr Glu Glu Pro Ala
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Ala Ala Glu Ala Ala Gly Ala Pro Asp Arg Val Gly Ser Leu Phe Val
35 40 45

Lys Lys Val Gln Asp Val His Ala Val Glu Ile Ser Ala Phe Arg Cys
50 55 60

Val Phe Gln Met Leu Val Val Ile Pro Cys Leu Ile Tyr Arg Lys Thr
65 70 75 80

Gly Phe Ile Gly Pro Lys Gly Gln Arg Ile Phe Leu Ile Leu Arg Gly

85 16U 200 PCT FINAL.ST25
90 95

Val Leu Gly Ser Thr Ala Met Met Leu Ile Tyr Tyr Ala Tyr Gln Thr
100 105 110

Met Ser Leu Ala Asp Ala Thr Val Ile Thr Phe Ser Ser Pro Val Phe
115 120 125

Thr Ser Ile Phe Ala Trp Ile Cys Leu Lys Glu Lys Tyr Ser Pro Trp
130 135 140

Asp Ala Leu Phe Thr Val Phe Thr Ile Thr Gly Val Ile Leu Ile Val
145 150 155 160

Arg Pro Pro Phe Leu Phe Gly Ser Asp Thr Ser Gly Met Glu Glu Ser
165 170 175

Tyr Ser Gly His Leu Lys Gly Thr Phe Ala Ala Ile Gly Ser Ala Val
180 185 190

Phe Ala Ala Ser Thr Leu Val Ile Leu Arg Lys Met Gly Lys Ser Val
195 200 205

Asp Tyr Phe Leu Ser Ile Trp Tyr Val Val Leu Gly Leu Val Glu
210 215 220

Ser Val Ile Ile Leu Ser Val Leu Gly Glu Trp Ser Leu Pro Tyr Cys
225 230 235 240

Gly Leu Asp Arg Leu Phe Leu Ile Phe Ile Gly Leu Phe Gly Leu Gly
245 250 255

Gly Gln Ile Phe Ile Thr Lys Ala Leu Gln Ile Glu Lys Ala Gly Pro
260 265 270

Val Ala Ile Met Lys Thr Met Asp Val Val Phe Ala Phe Ile Phe Gln
275 280 285

Ile Ile Phe Phe Asn Asn Val Pro Thr Trp Trp Thr Val Gly Gly Ala
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Gln Ser Ser Lys

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atc cct gga ctt gag cag tac cac gtc tgg atc agc atc cca ttc tgc 48
96

16U 200 PCT FINAL.ST25

Ile Pro Gly Leu Glu Gln Tyr His Val Trp Ile Ser Ile Pro Phe Cys				
20	25	30		
tta atc tat ctc atg gct gtc gtg gcc aat agt atc ctt ctc tac ctc				144
Leu Ile Tyr Leu Met Ala Val Val Ala Asn Ser Ile Leu Leu Tyr Leu				
35	40	45		
att gtg gta gag cac agt ctt cat gca ccc atg ttc ttt ttc ctt tcc				192
Ile Val Val Glu His Ser Leu His Ala Pro Met Phe Phe Phe Leu Ser				
50	55	60		
atg ctg gcc att act gat ctc ata ttg tcc acc aca tgt gtc ccc aaa				240
Met Leu Ala Ile Thr Asp Leu Ile Leu Ser Thr Thr Cys Val Pro Lys				
65	70	75	80	
aca ctt agc atc ttc tgc ttt gtg ttg gac tca gct ata ctg ctg gcc				288
Thr Leu Ser Ile Phe Cys Phe Val Leu Asp Ser Ala Ile Leu Leu Ala				
85	90	95		
atg gca ttt gac cgc tat atg gcc att tgc tca ccc ttg aga tac act				336
Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Ser Pro Leu Arg Tyr Thr				
100	105	110		
act att ctg act ccc aaa acc att gtc aaa att gct gtg gga ata tgt				384
Thr Ile Leu Thr Pro Lys Thr Ile Val Lys Ile Ala Val Gly Ile Cys				
115	120	125		
ttc cga agt ttc tgt gtt ttt gtc cca tgt gtt ttc ctt gtg aat cgt				432
Phe Arg Ser Phe Cys Val Phe Val Pro Cys Val Phe Leu Val Asn Arg				
130	135	140		
tta ccc ttc tgc agg aca cat atc att tct cac aca tac tgt gag cac				480
Leu Pro Phe Cys Arg Thr His Ile Ile Ser His Thr Tyr Cys Glu His				
145	150	155	160	
ata ggt gtt gcc cag ctt gcc tgt gct gat atc tcc atc aat atc tgg				528
Ile Gly Val Ala Gln Leu Ala Cys Ala Asp Ile Ser Ile Asn Ile Trp				
165	170	175		
tgt gga ttt tgt gtt ccc atc atg acg gtg atg aca gac gtg atc ctc				576
Cys Gly Phe Cys Val Pro Ile Met Thr Val Met Thr Asp Val Ile Leu				
180	185	190		
att gct gtc tcc tac acc ctc atc ctc tgt gct gtc ttt tgc ctc ccc				624
Ile Ala Val Ser Tyr Thr Leu Ile Leu Cys Ala Val Phe Cys Leu Pro				
195	200	205		
tcc caa gat gcc cgt cag aag gcc ctt tgc tcc tgt ggt tcc cat gtc				672
Ser Gln Asp Ala Arg Gln Lys Ala Leu Cys Ser Cys Gly Ser His Val				
210	215	220		
tgt gtt atc ctc ata ttc tat ata cca gca ttc ttc tcc att ctt gcc				720
Cys Val Ile Leu Ile Phe Tyr Ile Pro Ala Phe Phe Ser Ile Leu Ala				
225	230	235	240	
cat tgc ttt ggg cat aat gtc cct cat acc ttt cat att atg ttt gcc				768
His Cys Phe Gly His Asn Val Pro His Thr Phe His Ile Met Phe Ala				
245	250	255		
aac ctt tat gta atc att cca cct gct ctc aac tct att gtc tac aga				816
Asn Leu Tyr Val Ile Ile Pro Pro Ala Leu Asn Ser Ile Val Tyr Arg				
260	265	270		
ata aag acc aag caa atc cag aac aga atc ctt ttg ctc ttt ccc aag				864
Ile Lys Thr Lys Gln Ile Gln Asn Arg Ile Leu Leu Phe Pro Lys				
275	280	285		
ggg tcc cag tga				876
Gly Ser Gln				
290				

<210> 225
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<212> PRT
<213> Homo sapiens

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16U 200 PCT FINAL.ST25
Met Tyr Asn Met Ser Asp His Gly Thr Gly Leu Phe Ile Leu Leu Gly
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Ile Pro Gly Leu Glu Gln Tyr His Val Trp Ile Ser Ile Pro Phe Cys
20 25 30

Leu Ile Tyr Leu Met Ala Val Val Ala Asn Ser Ile Leu Leu Tyr Leu
35 40 45

Ile Val Val Glu His Ser Leu His Ala Pro Met Phe Phe Phe Leu Ser
50 55 60

Met Leu Ala Ile Thr Asp Leu Ile Leu Ser Thr Thr Cys Val Pro Lys
65 70 75 80

Thr Leu Ser Ile Phe Cys Phe Val Leu Asp Ser Ala Ile Leu Leu Ala
85 90 95

Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Ser Pro Leu Arg Tyr Thr
100 105 110

Thr Ile Leu Thr Pro Lys Thr Ile Val Lys Ile Ala Val Gly Ile Cys
115 120 125

Phe Arg Ser Phe Cys Val Phe Val Pro Cys Val Phe Leu Val Asn Arg
130 135 140

Leu Pro Phe Cys Arg Thr His Ile Ile Ser His Thr Tyr Cys Glu His
145 150 155 160

Ile Gly Val Ala Gln Leu Ala Cys Ala Asp Ile Ser Ile Asn Ile Trp
165 170 175

Cys Gly Phe Cys Val Pro Ile Met Thr Val Met Thr Asp Val Ile Leu
180 185 190

Ile Ala Val Ser Tyr Thr Leu Ile Leu Cys Ala Val Phe Cys Leu Pro
195 200 205

Ser Gln Asp Ala Arg Gln Lys Ala Leu Cys Ser Cys Gly Ser His Val
210 215 220

Cys Val Ile Leu Ile Phe Tyr Ile Pro Ala Phe Phe Ser Ile Leu Ala
225 230 235 240

His Cys Phe Gly His Asn Val Pro His Thr Phe His Ile Met Phe Ala
245 250 255

Asn Leu Tyr Val Ile Ile Pro Pro Ala Leu Asn Ser Ile Val Tyr Arg
260 265 270

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275 280 285

Gly Ser Gln
290

<210> 226
<211> 1949
<212> DNA

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<213> Homo sapiens

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<221> CDS

<222> (430)..(1164)

<223>

<400> 226

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ccccctggcc	tcctccgcct	gctgcagctg	gtgtccacct	gcgtggcctt	gtcactggtg	360
gccagcgtgg	gcccctggaa	ggggcctatg	ggtaactgg	ccatgttca	ctagtgttcc	420
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1	5	10				

gcc	ccg	tcc	ccc	ttt	tgg	ccg	aat	ttc	ccc	atc	acc	ttt	gcc	tgc		519	
Ala	Arg	Phe	Pro	Leu	Phe	Trp	Arg	Asn	Phe	Pro	Ile	Thr	Phe	Ala	Cys		
15				20				25			30						

tat	gca	gcc	ctc	ttt	tgc	ctc	tcg	gcc	tcc	atc	atc	atc	tac	ccc	acc	acc	567
Tyr	Ala	Ala	Leu	Leu	Cys	Leu	Ser	Ala	Ser	Ile	Ile	Tyr	Pro	Thr	Thr		
				35				40			45						

tac	ttt	cag	ttc	ctg	tcc	cac	ggc	cgt	tcc	ccg	gac	cac	gcc	atc	gcc		615
Tyr	Leu	Gln	Phe	Leu	Ser	His	Gly	Arg	Ser	Arg	Asp	His	Ala	Ile	Ala		
				50			55			60							

gcc	atc	gtc	ttc	tct	ggc	atc	gcc	tgt	gtg	gct	tac	gcc	acc	gaa	gta		663
Ala	Ile	Val	Phe	Ser	Gly	Ile	Ala	Cys	Val	Ala	Tyr	Ala	Thr	Glu	Val		
				65			70			75							

acc	tgg	acc	cg	gg	cc	gg	cc	gag	atc	act	gac	tac	atg	gcc	tcc		711
Thr	Trp	Thr	Arg	Ala	Arg	Pro	Gly	Glu	Ile	Thr	Asp	Tyr	Met	Ala	Ser		
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gag	ctg	ggg	ctg	ctg	aag	gtg	ctg	gag	acc	ttc	gtg	gcc	tgc	ctc	atc		759
Glu	Leu	Gly	Leu	Leu	Lys	Val	Leu	Glu	Thr	Phe	Val	Ala	Cys	Leu	Ile		
				95			100			105			110				

ttc	gtg	ttc	atc	aat	agc	ccc	tac	gtg	tac	cac	aat	ccg	ccg	gcc	ctg		807
Phe	Val	Phe	Ile	Asn	Ser	Pro	Tyr	Val	Tyr	His	Asn	Arg	Pro	Ala	Leu		
				115			120			125							

gag	tgg	tgg	gtg	gtg	tac	gcc	ctc	tgc	tgc	ctg	gag	cc	ctc			855	
Glu	Trp	Trp	Val	Ala	Val	Tyr	Ala	Leu	Cys	Phe	Val	Leu	Ala	Ala	Leu		
				130			135			140							

act	atc	ctg	ctg	agc	ctg	ggg	cac	tgc	acc	aat	atg	ctg	ccc	atc	ccg		903
Thr	Ile	Leu	Leu	Ser	Leu	Gly	His	Cys	Thr	Asn	Met	Leu	Pro	Ile	Arg		
				145			150			155							

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Phe	Pro	Ser	Phe	Leu	Leu	Gly	Leu	Ala	Leu	Leu	Ser	Val	Leu	Leu	Tyr		
				160			165			170							

gcc	act	gcc	ctt	gtc	ctc	tgg	ccc	ctc	tac	cag	ttc	aac	gag	aag	tat		999
Ala	Thr	Ala	Leu	Val	Ieu	Trp	Pro	Ieu	Tyr	Gln	Phe	Asn	Glu	Lys	Tyr		
				175			180			185			190				

ggt	gtc	cag	ccc	tgg	cag	acg	aga	gat	gtg	agc	tgc	agc	gac	aga	aac		1047
Gly	Val	Gln	Pro	Trp	Gln	Thr	Arg	Asp	Val	Ser	Cys	Ser	Asp	Arg	Asn		
				195			200			205							

ccc	tac	ctt	gtg	tgt	atc	tgg	gac	cg	ctg	gct	gtg	acc	aac	ctg		1095
Pro	Tyr	Leu	Val	Cys	Ile	Trp	Asp	Arg	Arg	Leu	Ala	Val	Thr	Asn	Leu	
				210			215			220						

acg	gcc	gtc	acc	ttt	ctg	gcc	tat	gtg	ggc	gac	ctg	gtg	tac	tct	gcc		1143
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16U 200 PCT FINAL.ST25
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 His Leu Val Phe Val Lys Val 240 245
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Ala Leu Leu Cys Leu Ser Ala Ser Ile Ile Tyr Pro Thr Thr Tyr Leu
 35 40 45

Gln Phe Leu Ser His Gly Arg Ser Arg Asp His Ala Ile Ala Ala Ile
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Val Phe Ser Gly Ile Ala Cys Val Ala Tyr Ala Thr Glu Val Thr Trp
 65 70 75 80

Thr Arg Ala Arg Pro Gly Glu Ile Thr Asp Tyr Met Ala Ser Glu Leu
 85 90 95

Gly Leu Leu Lys Val Leu Glu Thr Phe Val Ala Cys Leu Ile Phe Val
 100 105 110

Phe Ile Asn Ser Pro Tyr Val Tyr His Asn Arg Pro Ala Leu Glu Trp
 115 120 125

Trp Val Ala Val Tyr Ala Leu Cys Phe Val Leu Ala Ala Leu Thr Ile
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Leu Leu Ser Leu Gly His Cys Thr Asn Met Leu Pro Ile Arg Phe Pro
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16U 200 PCT FINAL.ST25

Ser Phe Leu Leu Gly Leu Ala Leu Leu Ser Val Leu Leu Tyr Ala Thr
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Ala Leu Val Leu Trp Pro Leu Tyr Gln Phe Asn Glu Lys Tyr Gly Val
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Gln Pro Trp Gln Thr Arg Asp Val Ser Cys Ser Asp Arg Asn Pro Tyr
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 ctccggggcca gggtgacagg aggctgtctt gagaggaaga agttgacggg aaggccagtg 180
 cgacggccaaa tctcgtaac ctgggggac ga atg ctc agg atg cgg gtc ccc 233
 Met Leu Arg Met Arg Val Pro
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ccc cat ttc ctg caa cag cca gag gac ctg gtg gtg ctg ctg ggg gag 329
 Pro His Phe Leu Gln Gln Pro Glu Asp Leu Val Val Leu Leu Gly Glu
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gaa gcc cgg ctg ccc tgt gct ctg ggc gcc tac tgg ggg cta gtt cag 377
 Glu Ala Arg Leu Pro Cys Ala Leu Gly Ala Tyr Trp Gly Leu Val Gln
 40 45 50 55

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 Trp Thr Lys Ser Gly Leu Ala Leu Gly Gly Gln Arg Asp Leu Pro Gly
 60 65 70

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 75 80 85

ctc cac att agg ccc gtg gag cta gag gat gaa gca tca tat gaa tgt 521
 Leu His Ile Arg Pro Val Glu Leu Glu Asp Glu Ala Ser Tyr Glu Cys
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cag gct aca caa gca ggc ctc cgc tcc aga cca gcc caa ctg cac gtg 569
 Gln Ala Thr Gln Ala Gly Leu Arg Ser Arg Pro Ala Gln Leu His Val
 105 110 115

ctg gtc ccc cca gaa gcc ccc cag gtg ctg ggc ggc ccc tct gtg tct 617
 Leu Val Pro Pro Glu Ala Pro Gln Val Leu Gly Gly Pro Ser Val Ser
 120 125 130 135

16U 200 PCT FINAL.ST25

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gat gga gcc acc ttc cat cag acc ctg ctg aag gaa ggg acc cct ggg Asp Gly Ala Thr Phe His Gln Thr Leu Leu Lys Glu Gly Thr Pro Gly 170 175 180	761
tca gtg gag agc acc tta acc ctg acc cct ttc agc cat gat gat gga Ser Val Glu Ser Thr Leu Thr Pro Phe Ser His Asp Asp Gly 185 190 195	809
gcc acc ttt gtc tgc cgg gcc cgg agc cag gcc ctg ccc aca gga aga Ala Thr Phe Val Cys Arg Ala Arg Ser Gln Ala Leu Pro Thr Gly Arg 200 205 210 215	857
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acc tgg acc cgc cgc ggt ggc gcg cag gtg ctg ggc tct gga gcc aca Thr Trp Thr Arg Arg Gly Gly Ala Gln Val Leu Gly Ser Gly Ala Thr 345 350 355	1289
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cct gcc ttc ctg agg ggc cct gct cgc ctc cag tgt ctg gtt ttc gcc Pro Ala Phe Leu Arg Gly Pro Ala Arg Leu Gln Cys Leu Val Phe Ala 410 415 420	1481
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16U 200 PCT FINAL.ST25

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Ser Gly Thr Gln Glu Ser Asp Phe Ser Arg Ser Phe Asn Cys Ser Ala	
475 480 485	
cgg aac cgg ctg ggc gag gga ggt gcc cag gcc agc ctg ggc cgt aga	1721
Arg Asn Arg Leu Gly Glu Gly Ala Gln Ala Ser Leu Gly Arg Arg	
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gac ttg ctg ccc act gtg cgg ata gtg gcc gga gtg gcc gct gcc acc	1769
Asp Leu Leu Pro Thr Val Arg Ile Val Ala Gly Val Ala Ala Ala Thr	
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aca act ctc ctt atg gtc atc act ggg gtg gcc ctc tgc tgc tgg cgc	1817
Thr Thr Leu Leu Met Val Ile Thr Gly Val Ala Leu Cys Cys Trp Arg	
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Phe Pro Thr Pro Ser His Pro Arg Leu Gln Thr His Val	
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Arg Pro Ala Gln Leu His Val Leu Val Pro Pro Glu Ala Pro Gln Val
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Gln Ala Leu Pro Thr Gly Arg Asp Thr Ala Ile Thr Leu Ser Leu Gln
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Arg Ser Phe Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Ala
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Val Ala Leu Cys Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser
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16U 200 PCT FINAL.ST25

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Leu Pro Pro Pro Ser Pro Leu Gly Pro Pro Gly Thr Pro Thr Phe Tyr
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Ala Arg Ala Gly Tyr Leu Thr Thr Pro His Pro Arg Ala Phe Thr Ser
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Tyr Ile Lys Pro Thr Ser Phe Gly Pro Pro Asp Leu Ala Pro Gly Thr
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Arg Phe Thr Ala Pro Thr Ser Gln Phe Tyr His Leu Phe Leu His Gly	
55 60 65	
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Asn Ser Leu Thr Arg Leu Phe Pro Asn Glu Phe Ala Asn Phe Tyr Asn	
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Gly Ala Phe Leu Gly Leu Gln Leu Val Lys Arg Leu His Ile Asn Asn	
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Asn Leu Ile Ser Thr Leu Pro Ala Asn Val Phe Gln Tyr Val Pro Ile	
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245 250 255	
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260 265 270 275	
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16U 200 PCT FINAL.ST25

Gly Thr Lys Ile Pro Gly Asn Trp Gln Ile Lys Ile Arg Pro Thr Ala
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Ala Ile Ala Thr Gly Ser Ser Arg Asn Lys Pro Leu Ala Asn Ser Leu
325 330 335

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Pro Cys Pro Gly Gly Cys Ser Cys Asp His Ile Pro Gly Ser Gly Leu
340 345 350 355

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Lys Met Asn Cys Asn Asn Arg Asn Val Ser Ser Leu Ala Asp Leu Lys
360 365 370

ccc aag ctc tct aac gtg cag gag ctt ttc cta cga gat aac aag atc 2047
Pro Lys Leu Ser Asn Val Gln Glu Leu Phe Leu Arg Asp Asn Lys Ile
375 380 385

cac agc atc cga aaa tcg cac ttt gtg gat tac aag aac ctc att ctg 2095
His Ser Ile Arg Lys Ser His Phe Val Asp Tyr Lys Asn Leu Ile Leu
390 395 400

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Leu Asp Leu Gly Asn Asn Ile Ala Thr Val Glu Asn Asn Thr Phe
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aag aac ctt ttg gac ctc agg tgg cta tac atg gat agc aat tac ctg 2191
Lys Asn Leu Leu Asp Leu Arg Trp Leu Tyr Met Asp Ser Asn Tyr Leu
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440 445 450

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Ser Leu His Asn Asn Tyr Phe Met Tyr Leu Pro Val Ala Gly Val Leu
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520 525 530

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535 540 545

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550 555 560

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565 570 575

cag ctg tac gct agg atc tcg ccc acg tta act tcg cac agt aaa aac 2671
Gln Leu Tyr Ala Arg Ile Ser Pro Thr Leu Thr Ser His Ser Lys Asn
580 585 590 595

agc act ggg ttg gcg gag acc ggg acg cac tcc aac tcc tac cta gac 2719
Ser Thr Gly Leu Ala Glu Thr Gly Thr His Ser Asn Ser Tyr Leu Asp
600 605 610

acc agc agg gtg tcc atc tcg gtg ttg gtc ccg gga ctg ctg ctg gtg 2767
Thr Ser Arg Val Ser Ile Ser Val Leu Val Pro Gly Leu Leu Leu Val
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16U 200 PCT FINAL.ST25

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630 635 640	
agg aac cga aag cgg tcc aag aga cga gat gcc aac tcc tcc gcg tcc	2863
Arg Asn Arg Lys Arg Ser Lys Arg Arg Asp Ala Asn Ser Ser Ala Ser	
645 650 655	
gag att aat tcc cta cag aca gtc tgt gac tct tcc tac tgg cac aat	2911
Glu Ile Asn Ser Leu Gln Thr Val Cys Asp Ser Ser Tyr Trp His Asn	
660 665 670 675	
ggg cct tac aac gca gat ggg gcc cac aga gtg tat gac tgt ggc tct	2959
Gly Pro Tyr Asn Ala Asp Gly Ala His Arg Val Tyr Asp Cys Gly Ser	
680 685 690	
cac tcg ctc tca gac taagacccca accccaaatag gggagggcag agggaaaggcg	3014
His Ser Leu Ser Asp	
695	
atacatcctt ccccacccgca ggccaccccg gggctggagg ggcgtgtacc caaatccccg	3074
cgccatcagc ctggatgggc ataagttagat aaataactgt gagctgcac aaccgaaagg	3134
gcctgacccc ttacttagct ccctccttga aacaaaagagc agactgtgga gagctggag	3194
agcgcagccca gtcgcgttctt tgctgagagc cccttttgc agaaaagccca gcacgaccct	3254
gctggaagaa ctgacagtgc cctcgccctc ggcccccgggg cctgtggggt tggatgccgc	3314
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catctcggttcc acagcacccca ccctcttacc tgataagttc catcgatata aactttctat	3614
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ttgttttggg ttcttttattt ttgatggta tgTTTTTATTt tatttttattt ttttcagggg	3854
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agatgctgct ggcattttga attcaacatc tgctgaaaac ggtaaaacta attagtgc	4694
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gaaatTTAatc attatcctaa agaagtgttt ctctccatc atccggatTTt ctgggttgg	4814

16U 200 PCT FINAL.ST25

cccagcaatt aacaaaaaca gcttcaactg ttgcatttt atgaaccaat gtaactctgg	4874
cctcaatcat attcctctgg gatttctaaa cagcagttaa gctacaaaaa gcaaacaaaa	4934
ccacacatat tgatggagtc tgcattccac cacatatcca cccttgagaa gtatgtcaaa	4994
agactgcaga ctatagattt ttttttaata taggattata aatcagctag tgaaagacct	5054
cagagcagtt gtaagtagat ctgcatctaa gaaactcatat tctaaaggga agtgatttct	5114
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<210> 231
 <211> 696
 <212> PRT
 <213> Homo sapiens

<400> 231

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Gly Asn Val Thr Gly Asp Val Cys Lys Glu Lys Ile Cys Ser Cys Asn
 20 25 30

Glu Ile Glu Gly Asp Leu His Val Asp Cys Glu Lys Lys Gly Phe Thr
 35 40 45

Ser Leu Gln Arg Phe Thr Ala Pro Thr Ser Gln Phe Tyr His Leu Phe
 50 55 60

Leu His Gly Asn Ser Leu Thr Arg Leu Phe Pro Asn Glu Phe Ala Asn
 65 70 75 80

Phe Tyr Asn Ala Val Ser Leu His Met Glu Asn Asn Gly Leu His Glu
 85 90 95

Ile Val Pro Gly Ala Phe Leu Gly Leu Gln Leu Val Lys Arg Leu His
 100 105 110

Ile Asn Asn Asn Lys Ile Lys Ser Phe Arg Lys Gln Thr Phe Leu Gly
 115 120 125

Leu Asp Asp Leu Glu Tyr Leu Gln Ala Asp Phe Asn Leu Leu Arg Asp
 130 135 140

Ile Asp Pro Gly Ala Phe Gln Asp Leu Asn Lys Leu Glu Val Leu Ile
 145 150 155 160

Leu Asn Asp Asn Leu Ile Ser Thr Leu Pro Ala Asn Val Phe Gln Tyr
 165 170 175

Val Pro Ile Thr His Leu Asp Leu Arg Gly Asn Arg Leu Lys Thr Leu
 180 185 190

Pro Tyr Glu Glu Val Leu Glu Gln Ile Pro Gly Ile Ala Glu Ile Leu
 195 200 205

Leu Glu Asp Asn Pro Trp Asp Cys Thr Cys Asp Leu Leu Ser Leu Lys
 210 215 220

16U 200 PCT FINAL.ST25
Glu Trp Leu Glu Asn Ile Pro Lys Asn Ala Leu Ile Gly Arg Val Val
225 230 235 240

Cys Glu Ala Pro Thr Arg Leu Gln Gly Lys Asp Leu Asn Glu Thr Thr
245 250 255

Glu Gln Asp Leu Cys Pro Leu Lys Asn Arg Val Asp Ser Ser Leu Pro
260 265 270

Ala Pro Pro Ala Gln Glu Glu Thr Phe Ala Pro Gly Pro Leu Pro Thr
275 280 285

Pro Phe Lys Thr Asn Gly Gln Glu Asp His Ala Thr Pro Gly Ser Ala
290 295 300

Pro Asn Gly Gly Thr Lys Ile Pro Gly Asn Trp Gln Ile Lys Ile Arg
305 310 315 320

Pro Thr Ala Ala Ile Ala Thr Gly Ser Ser Arg Asn Lys Pro Leu Ala
325 330 335

Asn Ser Leu Pro Cys Pro Gly Gly Cys Ser Cys Asp His Ile Pro Gly
340 345 350

Ser Gly Leu Lys Met Asn Cys Asn Asn Arg Asn Val Ser Ser Leu Ala
355 360 365

Asp Leu Lys Pro Lys Leu Ser Asn Val Gln Glu Leu Phe Leu Arg Asp
370 375 380

Asn Lys Ile His Ser Ile Arg Lys Ser His Phe Val Asp Tyr Lys Asn
385 390 395 400

Leu Ile Leu Leu Asp Leu Gly Asn Asn Ile Ala Thr Val Glu Asn
405 410 415

Asn Thr Phe Lys Asn Leu Leu Asp Leu Arg Trp Leu Tyr Met Asp Ser
420 425 430

Asn Tyr Leu Asp Thr Leu Ser Arg Glu Lys Phe Ala Gly Leu Gln Asn
435 440 445

Leu Glu Tyr Leu Asn Val Glu Tyr Asn Ala Ile Gln Leu Ile Leu Pro
450 455 460

Gly Thr Phe Asn Ala Met Pro Lys Leu Arg Ile Leu Ile Leu Asn Asn
465 470 475 480

Asn Leu Leu Arg Ser Leu Pro Val Asp Val Phe Ala Gly Val Ser Leu
485 490 495

Ser Lys Leu Ser Leu His Asn Asn Tyr Phe Met Tyr Leu Pro Val Ala
500 505 510

Gly Val Leu Asp Gln Leu Thr Ser Ile Ile Gln Ile Asp Leu His Gly
515 520 525

Asn Pro Trp Glu Cys Ser Cys Thr Ile Val Pro Phe Lys Gln Trp Ala
530 535 540

16U 200 PCT FINAL.ST25

Glu Arg Leu Gly Ser Glu Val Leu Met Ser Asp Leu Lys Cys Glu Thr
 545 550 555 560

Pro Val Asn Phe Phe Arg Lys Asp Phe Met Leu Leu Ser Asn Asp Glu
 565 570 575

Ile Cys Pro Gln Leu Tyr Ala Arg Ile Ser Pro Thr Leu Thr Ser His
 580 585 590

Ser Lys Asn Ser Thr Gly Leu Ala Glu Thr Gly Thr His Ser Asn Ser
 595 600 605

Tyr Leu Asp Thr Ser Arg Val Ser Ile Ser Val Leu Val Pro Gly Leu
 610 615 620

Leu Leu Val Phe Val Thr Ser Ala Phe Thr Val Val Gly Met Leu Val
 625 630 635 640

Phe Ile Leu Arg Asn Arg Lys Arg Ser Lys Arg Arg Asp Ala Asn Ser
 645 650 655

Ser Ala Ser Glu Ile Asn Ser Leu Gln Thr Val Cys Asp Ser Ser Tyr
 660 665 670

Trp His Asn Gly Pro Tyr Asn Ala Asp Gly Ala His Arg Val Tyr Asp
 675 680 685

Cys Gly Ser His Ser Leu Ser Asp
 690 695

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<211> 506

<212> DNA

<213> Homo sapiens

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<221> CDS

<222> (32)..(346)

<223>

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agg acg aag atc atc ggc atc gga agc agc tta ctg gtt gcc gcg
 Arg Thr Lys Ile Met Ile Gly Ile Gly Ser Ser Leu Leu Val Ala Ala
 10 15 20

atg gtg ctc cta agt gtt gtg ttc tgt ctt tac ttc aaa gta gct aag
 Met Val Leu Leu Ser Val Val Phe Cys Leu Tyr Phe Lys Val Ala Lys
 25 30 35

gca cta aaa gct gca aag gac cct gat gct gtg gct gta aaa aat cac
 Ala Leu Lys Ala Ala Lys Asp Pro Asp Ala Val Ala Val Lys Asn His
 40 45 50 55

aac cca gac aag gtg tgt tgg gcc acg aac agc cag gcc aaa gcc acc
 Asn Pro Asp Lys Val Cys Trp Ala Thr Asn Ser Gln Ala Lys Ala Thr
 60 65 70

acc atg gag tct tgt cca tct ctc cag tgc tgt gaa ggt tgt aga atg
 Thr Met Glu Ser Cys Pro Ser Leu Gln Cys Cys Glu Gly Cys Arg Met
 75 80 85

cat gcc agt tct gat tcc ctc cct tgc tgt gac ata aat gag
 His Ala Ser Ser Asp Ser Leu Pro Pro Cys Cys Cys Asp Ile Asn Glu
 90 95 100

16U 200 PCT FINAL.ST25

ggc ctc tgacttggga aagctgggca caaaaatctt catgagcaat atttctttct 396
 Gly Leu
 105

taatagaatg ttttattatt caagtcaagt tctagagtgt ttacatacta ttatataatg 456
 tacagtgtaa tttctgtac ttctgaataa atgtgcaata ttggaaataa 506

<210> 233
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<400> 233

Met Ala Lys Met Phe Asp Leu Arg Thr Lys Ile Met Ile Gly Ile Gly
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Ser Ser Leu Leu Val Ala Ala Met Val Leu Leu Ser Val Val Phe Cys
 20 25 30

Leu Tyr Phe Lys Val Ala Lys Ala Leu Lys Ala Ala Lys Asp Pro Asp
 35 40 45

Ala Val Ala Val Lys Asn His Asn Pro Asp Lys Val Cys Trp Ala Thr
 50 55 60

Asn Ser Gln Ala Lys Ala Thr Thr Met Glu Ser Cys Pro Ser Leu Gln
 65 70 75 80

Cys Cys Glu Gly Cys Arg Met His Ala Ser Ser Asp Ser Leu Pro Pro
 85 90 95

Cys Cys Cys Asp Ile Asn Glu Gly Leu
 100 105

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 <211> 1037
 <212> DNA
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 <222> (180)..(560)
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aaccggaaat accaaaggat tatctccaat attccagggc cttcttctc atctctgtct 120

ttaccatact tactggcctt ggctggctct tca gctcttg gatccttaat cgaggaagc 179

atg acc acc aac ttg gat ctg aag gta tcc atg ctc agc ttc atc tca 227
 Met Thr Thr Asn Leu Asp Leu Lys Val Ser Met Leu Ser Phe Ile Ser
 1 5 10 15

gct acc tgc ttg ctc ctc tgc aac ctg ttt gtg gca cag gtt cac 275
 Ala Thr Cys Leu Leu Cys Leu Asn Leu Phe Val Ala Gln Val His
 20 25 30

tgg cat act agg gat gcc atg gag tca gat ctc cta tgg acc tat tat 323
 Trp His Thr Arg Asp Ala Met Glu Ser Asp Leu Leu Trp Thr Tyr Tyr
 35 40 45

ctt aac tgg tgc agt gac atc ttt tac atg ttt gct ggg atc atc tct 371
 Leu Asn Trp Cys Ser Asp Ile Phe Tyr Met Phe Ala Gly Ile Ile Ser
 50 55 60

ctt ctc aac tac tta act tcc aga tcg cct gcc tgt gat gaa aac gtc 419

16U 200 PCT FINAL.ST25
 Leu Leu Asn Tyr Leu Thr Ser Arg Ser Pro Ala Cys Asp Glu Asn Val
 65 70 75 80
 act gtg att cca aca gag aga tca agg ctg ggg gtt ggt ccg gtg act 467
 Thr Val Ile Pro Thr Glu Arg Ser Arg Leu Gly Val Gly Pro Val Thr
 85 90 95
 aca gta tca cct gct aaa gat gaa ggg cca agg tct gag atg gaa tct 515
 Thr Val Ser Pro Ala Lys Asp Glu Gly Pro Arg Ser Glu Met Glu Ser
 100 105 110
 cta agt gtg aga gag aaa aat tta cca aag tca gga ctg tgg tgg 560
 Leu Ser Val Arg Glu Lys Asn Leu Pro Lys Ser Gly Leu Trp Trp
 115 120 125
 tgatagggaaa acctaactat agcttgcctt aaaagcaggg gagaagctga gttggaaatg 620
 gtcacataaa ttctggaaa ctctcctaattt atcatgtcca tattacttga ggagacagca 680
 tttaaagctga tgaaatgtct tttgcgtgca ttggatccaa aatataatatg atagtctaa 740
 agtaaataac tcacttaaga aaaacatttc taaaagaaaa caacaatgtt tagagtcatg 800
 aatgaaagaa actagtgaaa gatgcagtgt gtagaccaga gacctcttg ggtatcaggg 860
 atctcatgga ccagaatggc ccgtggagaa gaatgttaat tacttctgtt tggaatttc 920
 tttattatgt gtggcttgg gtatactcgatggaaacacttggacaaatactgttga 980
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<210> 235

<211> 127

<212> PRT

<213> Homo sapiens

<400> 235

Met Thr Thr Asn Leu Asp Leu Lys Val Ser Met Leu Ser Phe Ile Ser
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Ala Thr Cys Leu Leu Leu Cys Leu Asn Leu Phe Val Ala Gln Val His
 20 25 30

Trp His Thr Arg Asp Ala Met Glu Ser Asp Leu Leu Trp Thr Tyr Tyr
 35 40 45

Leu Asn Trp Cys Ser Asp Ile Phe Tyr Met Phe Ala Gly Ile Ile Ser
 50 55 60

Leu Leu Asn Tyr Leu Thr Ser Arg Ser Pro Ala Cys Asp Glu Asn Val
 65 70 75 80

Thr Val Ile Pro Thr Glu Arg Ser Arg Leu Gly Val Gly Pro Val Thr
 85 90 95

Thr Val Ser Pro Ala Lys Asp Glu Gly Pro Arg Ser Glu Met Glu Ser
 100 105 110

Leu Ser Val Arg Glu Lys Asn Leu Pro Lys Ser Gly Leu Trp Trp
 115 120 125

<210> 236

<211> 1054

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (152)..(895)

16U 200 PCT FINAL.ST25

<223>

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 gctgtgagaa gccaaggaca ccgagtcagt c atg gca cct aag gcg gca aag 172
 Met Ala Pro Lys Ala Ala Lys
 1 5
 ggg gcc aag cca gag cca gca cca gct cca cct cca ccc ggg gcc aaa 220
 Gly Ala Lys Pro Glu Pro Ala Pro Pro Pro Pro Gly Ala Lys
 10 15 20
 ccc gag gaa gac aag aag gac ggt aag gag cca tcg gac aaa cct caa 268
 Pro Glu Glu Asp Lys Lys Asp Gly Lys Glu Pro Ser Asp Lys Pro Gln
 25 30 35
 aag gcg gtg cag gac cat aag gag cca tcg gac aaa cct caa aag gcg 316
 Lys Ala Val Gln Asp His Lys Glu Pro Ser Asp Lys Pro Gln Lys Ala
 40 45 50 55
 gtg cag ccc aag cac gaa gtg ggc acg agg agg ggg tgg cgc cgc tac 364
 Val Gln Pro Lys His Glu Val Gly Thr Arg Arg Gly Cys Arg Arg Tyr
 60 65 70
 cggtgg gaa tta aaa gac agc aat aaa gag ttc tgg ctc ttg ggg cac 412
 Arg Trp Glu Leu Lys Asp Ser Asn Lys Glu Phe Trp Leu Leu Gly His
 75 80 85
 gct gag atc aag att cgg agt ttg ggc tgc cta ata gct gca atg ata 460
 Ala Glu Ile Lys Ile Arg Ser Leu Gly Cys Leu Ile Ala Ala Met Ile
 90 95 100
 ctgttg tcc tca ctc acc gtc cac ccc atc ttg agg ctt atc atc acc 508
 Leu Leu Ser Ser Leu Thr Val His Pro Ile Leu Arg Leu Ile Ile Thr
 105 110 115
 atggag ata tcc ttc ttc agc ttc atc tta ctg tac agc ttt gcc 556
 Met Glu Ile Ser Phe Phe Ser Phe Phe Ile Leu Leu Tyr Ser Phe Ala
 120 125 130 135
 att cat aga tac ata ccc ttc atc ctg tgg ccc att tct gac ctc ttc 604
 Ile His Arg Tyr Ile Pro Phe Ile Leu Trp Pro Ile Ser Asp Leu Phe
 140 145 150
 aac gac ctg att gct tgg gcg ttc ctt gtc ctt gtc ttt gct 652
 Asn Asp Leu Ile Ala Cys Ala Phe Leu Val Gly Ala Val Val Phe Ala
 155 160 165
 gtg aga agt cgg cga tcc atg aat ctc cac tac tta ctt gct gtc atc 700
 Val Arg Ser Arg Arg Ser Met Asn Leu His Tyr Leu Leu Ala Val Ile
 170 175 180
 ctt att ggt gcg gct gga gtt ttt gct ttt atc gat gtc ttt ctt 748
 Leu Ile Gly Ala Ala Gly Val Phe Ala Phe Ile Asp Val Cys Leu Gln
 185 190 195
 aga aac cac ttc aga ggc aag aag gcc aaa aag cat atg ctg gtt cct 796
 Arg Asn His Phe Arg Gly Lys Lys Ala Lys Lys His Met Leu Val Pro
 200 205 210 215
 cct cca gga aag gaa aaa gga ccc cag cag ggc aag gga cca gaa ccc 844
 Pro Pro Gly Lys Glu Lys Gly Pro Gln Gln Gly Lys Gly Pro Glu Pro
 220 225 230
 gcc aag cca cca gaa cct ggc aag cca cca ggg cca gca aag gga aag 892
 Ala Lys Pro Pro Glu Pro Gly Lys Pro Pro Gly Pro Ala Lys Gly Lys
 235 240 245
 aaa tgacttggag gaggctcctg gtgtctgaaa cggcagtgtat ttttacagca 945
 Lys
 atatgttcc actcttcc ttgtcttctt tctggatgg ttttcttttc cattttcatt 1005
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16U 200 PCT FINAL.ST25

<210> 237
<211> 248
<212> PRT
<213> Homo sapiens

<400> 237

Met Ala Pro Lys Ala Ala Lys Gly Ala Lys Pro Glu Pro Ala Pro Ala
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Glu Pro Ser Asp Lys Pro Gln Lys Ala Val Gln Asp His Lys Glu Pro
35 40 45

Ser Asp Lys Pro Gln Lys Ala Val Gln Pro Lys His Glu Val Gly Thr
50 55 60

Arg Arg Gly Cys Arg Arg Tyr Arg Trp Glu Leu Lys Asp Ser Asn Lys
65 70 75 80

Glu Phe Trp Leu Leu Gly His Ala Glu Ile Lys Ile Arg Ser Leu Gly
85 90 95

Cys Leu Ile Ala Ala Met Ile Leu Leu Ser Ser Leu Thr Val His Pro
100 105 110

Ile Leu Arg Leu Ile Ile Thr Met Glu Ile Ser Phe Phe Ser Phe Phe
115 120 125

Ile Leu Leu Tyr Ser Phe Ala Ile His Arg Tyr Ile Pro Phe Ile Leu
130 135 140

Trp Pro Ile Ser Asp Leu Phe Asn Asp Leu Ile Ala Cys Ala Phe Leu
145 150 155 160

Val Gly Ala Val Val Phe Ala Val Arg Ser Arg Arg Ser Met Asn Leu
165 170 175

His Tyr Leu Leu Ala Val Ile Leu Ile Gly Ala Ala Gly Val Phe Ala
180 185 190

Phe Ile Asp Val Cys Leu Gln Arg Asn His Phe Arg Gly Lys Lys Ala
195 200 205

Lys Lys His Met Leu Val Pro Pro Pro Gly Lys Glu Lys Gly Pro Gln
210 215 220

Gln Gly Lys Gly Pro Glu Pro Ala Lys Pro Pro Glu Pro Gly Lys Pro
225 230 235 240

Pro Gly Pro Ala Lys Gly Lys Lys
245

<210> 238
<211> 487
<212> DNA
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16U 200 PCT FINAL.ST25

<222> (17)..(418)
<223>

<400> 238
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1 5 10

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ctt ctg ctg ttg ctt agc aac tgg ttg gtc aag tat gaa cac aag ctc 100
Leu Leu Leu Leu Ser Asn Trp Leu Val Lys Tyr Glu His Lys Leu
15          20          25

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acc ctc cca gag ccc cag cag gag gaa gag aaa cca aag act tct gaa 148
Thr Leu Pro Glu Pro Gln Glu Glu Glu Lys Pro Lys Thr Ser Glu
      30           35           40

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aac gac tcc aag aac agc aag gcc gtg aac aca aaa gaa gtc aat aga 196
Asn Asp Ser Lys Asn Ser Lys Ala Val Asn Thr Lys Glu Val Asn Arg
45          50          55          60

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acg cat gcc tgc ttt gcc ctc cag gac gag atc ctc caa cgg ctg ttg 244
Thr His Ala Cys Phe Ala Leu Gln Asp Glu Ile Leu Gln Arg Leu Leu
65 70 75

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ttc agt gaa atg aag atg aag gtc cta gaa aat cag atg ttc atc ata 292
Phe Ser Glu Met Lys Met Lys Val Leu Glu Asn Gln Met Phe Ile Ile
80          85          90

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tgg aat aaa atg aat cac cac ggg cgg tca agc aga cat cgg aat ttt 340
Trp Asn Lys Met Asn His His Gly Arg Ser Ser Arg His Arg Asn Phe
95          100          105

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ccc atg aaa aaa cac aga atg agg agg cat gag tca att tgc ccc acc 388
Pro Met Lys Lys His Arg Met Arg Arg His Glu Ser Ile Cys Pro Thr
110          115          120

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ctg tct gac tgt act tcg agt tcc ccc agc taatgaggcc gaggcggtct 438
Leu Ser Ile Tyr Thr Ser Ser Ser Pro Ser

125 130
ggcctctgcc gatgttacct ttacacctag taaaacccag tcacagcct 487

<210> 239

<212> PRT
<213> *Homo sapiens*

1000

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Leu Ser Asn Trp Leu Val Lys Tyr Glu His Lys Leu Thr Leu Pro Glu
20 25 30

Pro Gln Gln Glu Glu Glu Lys Pro Lys Thr Ser Glu Asn Asp Ser Lys
35 40 45

Asn Ser Lys Ala Val Asn Thr Lys Glu Val Asn Arg Thr His Ala Cys
50 55 60

Phe Ala Leu Gln Asp Glu Ile Leu Gln Arg Leu Leu Phe Ser Glu Met
65 70 75 80

Lys Met Lys Val Leu Glu Asn Gln Met Phe Ile Ile Trp Asn Lys Met
85 90 95

Asn His His Gly Arg Ser Ser Arg His Arg Asn Phe Pro Met Lys Lys
100 105 110

His Arg Met Arg Arg His Glu Ser Ile Cys Pro Thr Leu Ser Asp Cys

115 120 16U 200 PCT FINAL.ST25

125

Thr Ser Ser Ser Pro Ser
130

<210> 240
<211> 846
<212> DNA
<213> Homo sapiens

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<222> (108)..(725)
<223>

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Met Asp Ser
1
caa cag gag gac ctg cgc ttc cct ggg atg tgg gtc tca ttg tac ttt 164
Gln Gln Glu Asp Leu Arg Phe Pro Gly Met Trp Val Ser Leu Tyr Phe
5 10 15
gga atc ctg ggg ctg tgg tct gtg ata act gga ggg tgc att atc ttt 212
Gly Ile Leu Gly Leu Cys Ser Val Ile Thr Gly Gly Cys Ile Ile Phe
20 25 30 35
ctg cac tgg agg aag aac ttg agg cgg gaa gag cat gcc cag cag tgg 260
Leu His Trp Arg Lys Asn Leu Arg Arg Glu Glu His Ala Gln Gln Trp
40 45 50
gtg gag gtg atg aga gct gcc aca ttc acc tac agc cca ttg ttg tac 308
Val Glu Val Met Arg Ala Ala Thr Phe Thr Tyr Ser Pro Leu Leu Tyr
55 60 65
tgg att aac aag cga cgg cgc tac ggc atg aat gca gcc atc aac acg 356
Trp Ile Asn Lys Arg Arg Arg Tyr Gly Met Asn Ala Ala Ile Asn Thr
70 75 80
ggc cct gcc cct gct gtc acc aag act gag act gag gtc cag aat cca 404
Gly Pro Ala Pro Ala Val Thr Lys Thr Glu Thr Glu Val Gln Asn Pro
85 90 95
gat gtt ctg tgg gat ttg gac atc ccc gaa ggc agg agc cat gct gac 452
Asp Val Leu Trp Asp Leu Asp Ile Pro Glu Gly Arg Ser His Ala Asp
100 105 110 115
caa gac agc aac ccc aag gcg gaa gcc cct gct ccc ctg caa cct gca 500
Gln Asp Ser Asn Pro Lys Ala Glu Ala Pro Ala Pro Leu Gln Pro Ala
120 125 130
ctg cag ctg gct cca cag cag ccc cag gcc aga tcc cca ttc cca ctt 548
Leu Gln Leu Ala Pro Gln Gln Pro Gln Ala Arg Ser Pro Phe Pro Leu
135 140 145
ccc atc ttt cag gag gtg ccc ttt gcc cca ccc ttg tgc aac cta ccc 596
Pro Ile Phe Gln Glu Val Pro Phe Ala Pro Pro Leu Cys Asn Leu Pro
150 155 160
ccc ctg ctg aac cac tct gtc tcc tat cct ttg gcc acc tgg cct gaa 644
Pro Leu Leu Asn His Ser Val Ser Tyr Pro Leu Ala Thr Cys Pro Glu
165 170 175
agg aat gtt ctc ttc cat tcc ctc ctg aat ctg gcc cag gaa gac cat 692
Arg Asn Val Leu Phe His Ser Leu Leu Asn Leu Ala Gln Glu Asp His
180 185 190 195
agc ttc aat gcc aag cct ttt cct tca gaa ctg tagcctcctc tcactgaagg 745
Ser Phe Asn Ala Lys Pro Phe Pro Ser Glu Leu
200 205
tgggagctgc aggaatcagg tgcagagtag gaaatggaac taacctcagg aaggtggtat 805
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16U 200 PCT FINAL.ST25

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 35 40 45

Gln Gln Trp Val Glu Val Met Arg Ala Ala Thr Phe Thr Tyr Ser Pro
 50 55 60

Leu Leu Tyr Trp Ile Asn Lys Arg Arg Tyr Gly Met Asn Ala Ala
 65 70 75 80

Ile Asn Thr Gly Pro Ala Pro Ala Val Thr Lys Thr Glu Thr Glu Val
 85 90 95

Gln Asn Pro Asp Val Leu Trp Asp Leu Asp Ile Pro Glu Gly Arg Ser
 100 105 110

His Ala Asp Gln Asp Ser Asn Pro Lys Ala Glu Ala Pro Ala Pro Leu
 115 120 125

Gln Pro Ala Leu Gln Leu Ala Pro Gln Gln Pro Gln Ala Arg Ser Pro
 130 135 140

Phe Pro Leu Pro Ile Phe Gln Glu Val Pro Phe Ala Pro Pro Leu Cys
 145 150 155 160

Asn Leu Pro Pro Leu Leu Asn His Ser Val Ser Tyr Pro Leu Ala Thr
 165 170 175

Cys Pro Glu Arg Asn Val Leu Phe His Ser Leu Leu Asn Leu Ala Gln
 180 185 190

Glu Asp His Ser Phe Asn Ala Lys Pro Phe Pro Ser Glu Leu
 195 200 205

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 Ser Ser Ser Ser Trp
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gac aac ctc tta gag tct ctc tct ctc agc aca gta tgg aat tgg ata 102
 Asp Asn Leu Leu Glu Ser Leu Ser Leu Ser Thr Val Trp Asn Trp Ile
 10 15 20

16U 200 PCT FINAL.ST25

caa gca agt ttt ttg gga gag act agt gca cct cag caa aca agt ttg Gln Ala Ser Phe Leu Gly Glu Thr Ser Ala Pro Gln Gln Thr Ser Leu 25 30 35	150
gga cta tta gat aat ctt gct cca gct gtg caa atc atc ttg agg att Gly Leu Leu Asp Asn Leu Ala Pro Ala Val Gln Ile Ile Leu Arg Ile 40 45 50	198
tct ttc ttg att tta ttg gga ata gga ata tat gcc tta tgg aaa cga Ser Phe Leu Ile Leu Gly Ile Gly Ile Tyr Ala Leu Trp Lys Arg 55 60 65	246
agt att cag tca att cag aaa aca ttg ttg ttt gta atc aca ctc tac Ser Ile Gln Ser Ile Gln Lys Thr Leu Leu Phe Val Ile Thr Leu Tyr 70 75 80 85	294
aaa ctt tac aag aag ggc tca cat att ttt gag gct ttg cta gcc aac Lys Leu Tyr Lys Gly Ser His Ile Phe Glu Ala Leu Leu Ala Asn 90 95 100	342
cca gaa gga agt ggt ctc cga att caa gac aat aat aat ctt ttc ctg Pro Glu Gly Ser Gly Leu Arg Ile Gln Asp Asn Asn Asn Leu Phe Leu 105 110 115	390
tcc ttg ggt ctg caa gag aaa att ttg aaa aaa ctt aag aca gtg gaa Ser Leu Gly Leu Gln Glu Lys Ile Leu Lys Lys Leu Lys Thr Val Glu 120 125 130	438
aac aaa atg aag aac cta gaa ggg ata atc gtt gct caa aaa cct gcc Asn Lys Met Lys Asn Leu Glu Gly Ile Ile Val Ala Gln Lys Pro Ala 135 140 145	486
acg aag agg gat tgc tcc tct gag ccc tac tgc agc tgc tct gac tgc Thr Lys Arg Asp Cys Ser Ser Glu Pro Tyr Cys Ser Cys Ser Asp Cys 150 155 160 165	534
cag agt ccc ttg tcc aca tca ggg ttt act tcc ccc att tga aat gtg Gln Ser Pro Leu Ser Thr Ser Gly Phe Thr Ser Pro Ile Asn Val 170 175 180	582
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Gln Gln Thr Ser Leu Gly Leu Leu Asp Asn Leu Ala Pro Ala Val Gln 35 40 45	
Ile Ile Leu Arg Ile Ser Phe Leu Ile Leu Leu Gly Ile Gly Ile Tyr 50 55 60	
Ala Leu Trp Lys Arg Ser Ile Gln Ser Ile Gln Lys Thr Leu Leu Phe 65 70 75 80	
Val Ile Thr Leu Tyr Lys Leu Tyr Lys Gly Ser His Ile Phe Glu 85 90 95	

160 200 PCT FINAL.ST25
 Ala Leu Leu Ala Asn Pro Glu Gly Ser Gly Leu Arg Ile Gln Asp Asn
 100 105 110

Asn Asn Leu Phe Leu Ser Leu Gly Leu Gln Glu Lys Ile Leu Lys Lys
 115 120 125

Leu Lys Thr Val Glu Asn Lys Met Lys Asn Leu Glu Gly Ile Ile Val
 130 135 140

Ala Gln Lys Pro Ala Thr Lys Arg Asp Cys Ser Ser Glu Pro Tyr Cys
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Ser Cys Ser Asp Cys Gln Ser Pro Leu Ser Thr Ser Gly Phe Thr Ser
 165 170 175

Pro Ile

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 <213> Homo sapiens

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 g atg tgc ttt gct ggt ttt agt ttt aag gag aaa ata ttt att gct tta 109
 Met Cys Phe Ala Gly Phe Ser Phe Lys Glu Lys Ile Phe Ile Ala Leu
 1 5 10 15
 gca tgg atg ccc aaa gct aca gta cag gct gtg tta ggt cct ctg gct 157
 Ala Trp Met Pro Lys Ala Thr Val Gln Ala Val Leu Gly Pro Leu Ala
 20 25 30
 cta gaa aca gca aga gtc tct gca ccc cac ttg gaa cca tat gcg aag 205
 Leu Glu Thr Ala Arg Val Ser Ala Pro His Leu Glu Pro Tyr Ala Lys
 35 40 45
 gat gtg atg tca gta gca ttt tta gcc atc tcg atc aca gct cca aat 253
 Asp Val Met Ser Val Ala Phe Leu Ala Ile Ser Ile Thr Ala Pro Asn
 50 55 60
 gga gct cta ctt atg ggc att ctg ggg cct aaa atg ctt aca cgc cat 301
 Gly Ala Leu Leu Met Gly Ile Leu Gly Pro Lys Met Leu Thr Arg His
 65 70 75 80
 tat gat cca agc aaa ata aaa ctg caa ttg tca aca tta gaa cat cat 349
 Tyr Asp Pro Ser Lys Ile Lys Leu Gln Leu Ser Thr Leu Glu His His
 85 90 95
 taaaaagttt acctgtcattc atctgcctgc ttcttttaat gaatttttc acatgacaga 409
 agaattttaa agtagaaata tgttagggact gtacagaaaa tccaggattt agtaaacatg 469
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 tattaaatgg aa 541

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 1 5 10 15

16U 200 PCT FINAL.ST25

Ala Trp Met Pro Lys Ala Thr Val Gln Ala Val Leu Gly Pro Leu Ala
20 25 30

Leu Glu Thr Ala Arg Val Ser Ala Pro His Leu Glu Pro Tyr Ala Lys
35 40 45

Asp Val Met Ser Val Ala Phe Leu Ala Ile Ser Ile Thr Ala Pro Asn
50 55 60

Gly Ala Leu Leu Met Gly Ile Leu Gly Pro Lys Met Leu Thr Arg His
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Tyr Asp Pro Ser Lys Ile Lys Leu Gln Leu Ser Thr Leu Glu His His
85 90 95

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<213> Homo sapiens

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gtgagcc atg ttc gta ggc gtc gcc cgg cac tct ggg agc cag gat gaa 169
Met Phe Val Gly Val Ala Arg His Ser Gly Ser Gln Asp Glu
1 5 10
gtc tca agg gga gta gag ccg ctg gag gcc gcg cgg gcc cag cct gct 217
Val Ser Arg Gly Val Glu Ala Ala Arg Ala Gln Pro Ala
15 20 25 30
aag gac agg agg gcc aag gga acc ccg aag tcc tcg aag ccc ggg aaa 265
Lys Asp Arg Arg Ala Lys Gly Thr Pro Lys Ser Ser Lys Pro Gly Lys
35 40 45
aaa cac cgg tat ctg aga cta ctt cca gag gcc ttg ata agg ttc ggc 313
Lys His Arg Tyr Leu Arg Leu Leu Pro Glu Ala Leu Ile Arg Phe Gly
50 55 60
ggt ttc cga aaa agg aaa aaa gcc aag tcc tca gtt tcc aag aag ccg 361
Gly Phe Arg Lys Arg Lys Ala Lys Ser Ser Val Ser Lys Pro
65 70 75
gga gaa gtg gat gac agt ttg gag cag ccc tgt ggt ttg ggc tgc tta 409
Gly Glu Val Asp Asp Ser Ile Glu Gln Pro Cys Gly Leu Gly Cys Leu
80 85 90
gtc agc acc tgc tgt gag tgt tgc aat aac att cgc tgc ttc atg att 457
Val Ser Thr Cys Cys Glu Cys Cys Asn Asn Ile Arg Cys Phe Met Ile
95 100 105 110
ttc tac tgc atc ctg ctc ata tgt caa ggt gtc gtc ttt ggt ctt ata 505
Phe Tyr Cys Ile Leu Leu Ile Cys Gln Gly Val Val Phe Gly Leu Ile
115 120 125
gat gtc agc att ggc gat ttt cag aag gaa tat caa ctg aaa acc att 553
Asp Val Ser Ile Gly Asp Phe Gln Lys Glu Tyr Gln Leu Lys Thr Ile
130 135 140
gag aag ttg gca ttg gaa aag agt tac gat att tca tct ggc ctg gta 601
Glu Lys Leu Ala Leu Glu Lys Ser Tyr Asp Ile Ser Ser Gly Leu Val
145 150 155
gca ata ttt ata gca ttc tat gga gac aga aaa aaa gta ata tgg ttt 649
Ala Ile Phe Ile Ala Phe Tyr Gly Asp Arg Lys Lys Val Ile Trp Phe

16U 200 PCT FINAL.ST25

160	165	170	
gta gct tcc tcc ttt tta ata gga ctt gga tca ctt tta tgt gct ttt Val Ala Ser Ser Phe Leu Ile Gly Leu Gly Ser Leu Leu Cys Ala Phe	180	185	697
175			190
cca tcc att aat gaa gaa aat aaa caa agt aag gta gga att gaa gat Pro Ser Ile Asn Glu Glu Asn Lys Gln Ser Lys Val Gly Ile Glu Asp	195	200	745
180			205
att tgc gaa gaa ata aag gtt gtc agt ggt tgc cag agc agt ggt ata Ile Cys Glu Glu Ile Lys Val Val Ser Gly Cys Gln Ser Ser Gly Ile	210	215	793
205			220
tca ttc caa tca aaa tac ctg tct ttc atc ctt ggg cag act gtg Ser Phe Gln Ser Lys Tyr Leu Ser Phe Phe Ile Leu Gly Gln Thr Val	225	230	841
210			235
cag gga ata gca gga atg cct ctt tat atc ctt gga ata acc ttt att Gln Gly Ile Ala Gly Met Pro Leu Tyr Ile Leu Gly Ile Thr Phe Ile	240	245	889
225			250
gat gag aat gtt gct aca cac tca gct ggt atc tat tta ggt att gca Asp Glu Asn Val Ala Thr His Ser Ala Gly Ile Tyr Leu Gly Ile Ala	255	260	937
240			265
250			270
gaa tgt aca tca atg att gga tat gct ctg ggt tat gtg cta gga gca Glu Cys Thr Ser Met Ile Gly Tyr Ala Leu Gly Tyr Val Leu Gly Ala	275	280	985
260			285
cca cta gtt aaa gtc cct gag aat act act tct gca aca aac act aca Pro Leu Val Lys Val Pro Glu Asn Thr Ser Ala Thr Asn Thr Thr	290	295	1033
275			300
gtc aat aat ggt agt cca gaa tgg cta tgg act tgg tgg att aat ttt Val Asn Asn Gly Ser Pro Glu Trp Leu Trp Thr Trp Trp Ile Asn Phe	305	310	1081
290			315
ctt ttt gcc gct gtc gtt gca tgg tgt aca tta ata cca ttg tca tgc Leu Phe Ala Ala Val Val Ala Trp Cys Thr Leu Ile Pro Leu Ser Cys	320	325	1129
305			330
ttt cca aac aat atg cca ggt tca aca cgg ata aaa gct agg aaa cgt Phe Pro Asn Asn Met Pro Gly Ser Thr Arg Ile Lys Ala Arg Lys Arg	335	340	1177
320			345
335			350
aaa cag ctt cat ttt ttt gac agc aga ctt aaa gat ctg aaa ctt gga Lys Gln Leu His Phe Phe Asp Ser Arg Leu Lys Asp Leu Lys Leu Gly	355	360	1225
340			365
act aat atc aag gat tta tgt gct ctt tgg att ctg atg agg aat Thr Asn Ile Lys Asp Leu Cys Ala Ala Leu Trp Ile Leu Met Arg Asn	370	375	1273
355			380
cca gtg ctc ata tgc cta gct ctg tca aaa gct aca gaa tat tta gtt Pro Val Leu Ile Cys Leu Ala Leu Ser Lys Ala Thr Glu Tyr Leu Val	385	390	1321
370			395
att att gga gct tct gaa ttt ttg cct ata tat tta gaa aat cag ttt Ile Ile Gly Ala Ser Glu Phe Leu Pro Ile Tyr Leu Glu Asn Gln Phe	400	405	1369
385			410
ata tta aca ccc act gtg gca act aca ctt gca gga ctt gtt tta att Ile Leu Thr Pro Thr Val Ala Thr Leu Ala Gly Leu Val Leu Ile	415	420	1417
400			425
415			430
cca gga ggt gca ctt ggc cag ctt ctg gga ggt gtc att gtt tcc aca Pro Gly Gly Ala Leu Gly Gln Leu Leu Gly Gly Val Ile Val Ser Thr	435	440	1465
420			445
435			
tta gaa atg tct tgt aaa gcc ctt atg aga ttt ata atg gtt aca tct Leu Glu Met Ser Cys Lys Ala Leu Met Arg Phe Ile Met Val Thr Ser	450	455	1513
435			460
450			
gtg ata tca ctt ata ctg ctt gtg ttt att att ttt gta cgc tgt aat Val Ile Ser Leu Ile Leu Val Phe Ile Phe Val Arg Cys Asn	465	470	1561
445			475
465			
cca gtg caa ttt gct ggg atc aat gaa gat tat gat gga aca agg aag			1609

16U 200 PCT FINAL.ST25

Pro Val Gln Phe Ala Gly Ile Asn Glu Asp Tyr Asp Gly Thr Arg Lys
 480 485 490 495 500 505 510

ttg gga aac ctc acg gct cct tgc aat gaa aaa tgt aga tgc tca tct 1657
 Leu Gly Asn Leu Thr Ala Pro Cys Asn Glu Lys Cys Arg Cys Ser Ser
 495 500 505 510

tca att tat tct tct ata tgt gga aga gat gat att gaa tat ttt tct 1705
 Ser Ile Tyr Ser Ser Ile Cys Gly Arg Asp Asp Ile Glu Tyr Phe Ser
 515 520 525

gcc tgc ttt gca ggg tgt aca tat tct aaa gca caa aac caa aaa aag 1753
 Ala Cys Phe Ala Gly Cys Thr Tyr Ser Lys Ala Gln Asn Gln Lys Lys
 530 535 540

atg tac tac aat tgt tct tgc att aaa gaa gga tta ata act gca gat 1801
 Met Tyr Tyr Asn Cys Ser Cys Ile Lys Glu Gly Leu Ile Thr Ala Asp
 545 550 555

gca gaa ggt gat ttt att gat gcc aga ccc ggg aaa tgt gat gca aag 1849
 Ala Glu Gly Asp Phe Ile Asp Ala Arg Pro Gly Lys Cys Asp Ala Lys
 560 565 570

tgc tat aag tta cct ttg ttc att gct ttt atc ttt tct aca ctt ata 1897
 Cys Tyr Lys Leu Pro Leu Phe Ile Ala Phe Ile Phe Ser Thr Leu Ile
 575 580 585 590

ttt tct ggt ttt tct ggt gta cca atc gtc ttg gcc atg acg cgg gtt 1945
 Phe Ser Gly Phe Ser Gly Val Pro Ile Val Leu Ala Met Thr Arg Val
 595 600 605

gta cct gac aaa ctg cgt tct ctg gcc ttg ggt gta agc tat gtg att 1993
 Val Pro Asp Lys Leu Arg Ser Leu Ala Leu Gly Val Ser Tyr Val Ile
 610 615 620

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 Leu Arg Ile Phe Gly Thr Ile Pro Gly Pro Ser Ile Phe Lys Met Ser
 625 630 635

gga gaa act tct tgt att tta cgg gat gtt aat aaa tgt gga cac aca 2089
 Gly Glu Thr Ser Cys Ile Leu Arg Asp Val Asn Lys Cys Gly His Thr
 640 645 650

gga cgt tgt tgg ata tat aac aag aca aaa atg gct ttc tta ttg gta 2137
 Gly Arg Cys Trp Ile Tyr Asn Lys Thr Lys Met Ala Phe Leu Leu Val
 655 660 665 670

gga ata tgt ttt ctt tgc aaa cta tgc act atc atc ttc act act att 2185
 Gly Ile Cys Phe Leu Cys Lys Leu Cys Thr Ile Ile Phe Thr Thr Ile
 675 680 685

gca ttt ttc ata tac aaa cgt cgt cta aat gag aac act gac ttc cca 2233
 Ala Phe Phe Ile Tyr Lys Arg Arg Leu Asn Glu Asn Thr Asp Phe Pro
 690 695 700

gat gta act gtg aag aat cca aaa gtt aag aaa aaa gaa gaa act gac 2281
 Asp Val Thr Val Lys Asn Pro Lys Val Lys Lys Glu Glu Thr Asp
 705 710 715

ttg taactggatc atcattgtga ttgcagatca tttgaggatc agagtgtaa 2334
 Leu

aacgagtttc tctttacag attctccaag atttgtttct gtgcctaact ttcagaagag 2394

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cataataaag tgtccttattg tgaaacaaaa aaaaaaaaaa aaaaa 2499

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<400> 247

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16U 200 PCT FINAL.ST25

Arg Gly Val Glu Pro Leu Glu Ala Ala Arg Ala Gln Pro Ala Lys Asp
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Arg Arg Ala Lys Gly Thr Pro Lys Ser Ser Lys Pro Gly Lys Lys His
35 40 45

Arg Tyr Leu Arg Leu Leu Pro Glu Ala Leu Ile Arg Phe Gly Gly Phe
50 55 60

Arg Lys Arg Lys Lys Ala Lys Ser Ser Val Ser Lys Lys Pro Gly Glu
65 70 75 80

Val Asp Asp Ser Leu Glu Gln Pro Cys Gly Leu Gly Cys Leu Val Ser
85 90 95

Thr Cys Cys Glu Cys Cys Asn Asn Ile Arg Cys Phe Met Ile Phe Tyr
100 105 110

Cys Ile Leu Leu Ile Cys Gln Gly Val Val Phe Gly Leu Ile Asp Val
115 120 125

Ser Ile Gly Asp Phe Gln Lys Glu Tyr Gln Leu Lys Thr Ile Glu Lys
130 135 140

Leu Ala Leu Glu Lys Ser Tyr Asp Ile Ser Ser Gly Leu Val Ala Ile
145 150 155 160

Phe Ile Ala Phe Tyr Gly Asp Arg Lys Lys Val Ile Trp Phe Val Ala
165 170 175

Ser Ser Phe Leu Ile Gly Leu Gly Ser Leu Leu Cys Ala Phe Pro Ser
180 185 190

Ile Asn Glu Glu Asn Lys Gln Ser Lys Val Gly Ile Glu Asp Ile Cys
195 200 205

Glu Glu Ile Lys Val Val Ser Gly Cys Gln Ser Ser Gly Ile Ser Phe
210 215 220

Gln Ser Lys Tyr Leu Ser Phe Phe Ile Leu Gly Gln Thr Val Gln Gly
225 230 235 240

Ile Ala Gly Met Pro Leu Tyr Ile Leu Gly Ile Thr Phe Ile Asp Glu
245 250 255

Asn Val Ala Thr His Ser Ala Gly Ile Tyr Leu Gly Ile Ala Glu Cys
260 265 270

Thr Ser Met Ile Gly Tyr Ala Leu Gly Tyr Val Leu Gly Ala Pro Leu
275 280 285

Val Lys Val Pro Glu Asn Thr Thr Ser Ala Thr Asn Thr Thr Val Asn
290 295 300

Asn Gly Ser Pro Glu Trp Leu Trp Thr Trp Trp Ile Asn Phe Leu Phe
305 310 315 320

Ala Ala Val Val Ala Trp Cys Thr Leu Ile Pro Leu Ser Cys Phe Pro

16U 200 PCT FINAL.ST25

325 330 335

Asn Asn Met Pro Gly Ser Thr Arg Ile Lys Ala Arg Lys Arg Lys Gln
340 345 350

Leu His Phe Phe Asp Ser Arg Leu Lys Asp Leu Lys Leu Gly Thr Asn
355 360 365

Ile Lys Asp Leu Cys Ala Ala Leu Trp Ile Leu Met Arg Asn Pro Val
370 375 380

Leu Ile Cys Leu Ala Leu Ser Lys Ala Thr Glu Tyr Leu Val Ile Ile
385 390 395 400

Gly Ala Ser Glu Phe Leu Pro Ile Tyr Leu Glu Asn Gln Phe Ile Leu
405 410 415

Thr Pro Thr Val Ala Thr Thr Leu Ala Gly Leu Val Leu Ile Pro Gly
420 425 430

Gly Ala Leu Gly Gln Leu Leu Gly Gly Val Ile Val Ser Thr Leu Glu
435 440 445

Met Ser Cys Lys Ala Leu Met Arg Phe Ile Met Val Thr Ser Val Ile
450 455 460

Ser Leu Ile Leu Leu Val Phe Ile Ile Phe Val Arg Cys Asn Pro Val
465 470 475 480

Gln Phe Ala Gly Ile Asn Glu Asp Tyr Asp Gly Thr Arg Lys Leu Gly
485 490 495

Asn Leu Thr Ala Pro Cys Asn Glu Lys Cys Arg Cys Ser Ser Ser Ile
500 505 510

Tyr Ser Ser Ile Cys Gly Arg Asp Asp Ile Glu Tyr Phe Ser Ala Cys
515 520 525

Phe Ala Gly Cys Thr Tyr Ser Lys Ala Gln Asn Gln Lys Lys Met Tyr
530 535 540

Tyr Asn Cys Ser Cys Ile Lys Glu Gly Leu Ile Thr Ala Asp Ala Glu
545 550 555 560

Gly Asp Phe Ile Asp Ala Arg Pro Gly Lys Cys Asp Ala Lys Cys Tyr
565 570 575

Lys Leu Pro Leu Phe Ile Ala Phe Ile Phe Ser Thr Leu Ile Phe Ser
580 585 590

Gly Phe Ser Gly Val Pro Ile Val Leu Ala Met Thr Arg Val Val Pro
595 600 605

Asp Lys Leu Arg Ser Leu Ala Leu Gly Val Ser Tyr Val Ile Leu Arg
610 615 620

Ile Phe Gly Thr Ile Pro Gly Pro Ser Ile Phe Lys Met Ser Gly Glu
625 630 635 640

16U 200 PCT FINAL.ST25
 Thr Ser Cys Ile Leu Arg Asp Val Asn Lys Cys Gly His Thr Gly Arg
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Cys Trp Ile Tyr Asn Lys Thr Lys Met Ala Phe Leu Leu Val Gly Ile
 660 665 670

Cys Phe Leu Cys Lys Leu Cys Thr Ile Ile Phe Thr Thr Ile Ala Phe
 675 680 685

Phe Ile Tyr Lys Arg Arg Leu Asn Glu Asn Thr Asp Phe Pro Asp Val
 690 695 700

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<400> 248
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gtc aga tcc agc ctt ttg ggg atc ctg ttg cag gtt acg agg ctc tca 102
 Val Arg Ser Ser Leu Leu Gly Ile Leu Leu Gln Val Thr Arg Leu Ser
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gtg ctg ttg gtt cag aac cga gat cac ctc tat aat ttc ctg ctc ctc 150
 Val Leu Val Gln Asn Arg Asp His Leu Tyr Asn Phe Leu Leu Leu
 25 30 35

aag atc aac ctc ttc aac cac tgg gtg tca ggg ctg gcc cag gag gcc 198
 Lys Ile Asn Leu Phe Asn His Trp Val Ser Gly Leu Ala Gln Glu Ala
 40 45 50

cgg ggg tcc tgt aac tgg cag gcc cac cta ccc ctg gga gct gca gcc 246
 Arg Gly Ser Cys Asn Trp Gln Ala His Leu Pro Leu Gly Ala Ala Ala
 55 60 65 70

tgc ccc ctg ggc cag gct ctc tgg gct ggt ctg gtc ata cag gtc 294
 Cys Pro Leu Gly Gln Ala Leu Trp Ala Gly Leu Ala Leu Ile Gln Val
 75 80 85

ccc gta tgg ctg gtg cta cag gga ccc agg ctg atg tgg gct ggc atg 342
 Pro Val Trp Leu Val Leu Gln Gly Pro Arg Leu Met Trp Ala Gly Met
 90 95 100

tgg ggc agc acc aag ggc ctg ggc ctg gcc ttg ctc agt gcc tgg gag 390
 Trp Gly Ser Thr Lys Gly Leu Ala Leu Leu Ala Trp Glu
 105 110 115

cag ctg ggc ctg tct gtg gcc atc tgg aca gat ctg ttt ttg tca tgt 438
 Gln Leu Gly Leu Ser Val Ala Ile Trp Thr Asp Leu Phe Leu Ser Cys
 120 125 130

ctg cac ggc ctg atg ttg gtg gcc ttg ctc ttg gta gtg acc tgg 486
 Leu His Gly Leu Met Leu Val Ala Leu Leu Val Val Val Thr Trp
 135 140 145 150

agg gtg tgt cag aag tcc cac tgc ttc cga ctg ggc agg cag ctc agt 534
 Arg Val Cys Gln Lys Ser His Cys Phe Arg Leu Gly Arg Gln Leu Ser
 155 160 165

aag gcc ttg caa gtg aac tgc gtg gta agg aag ctc ctg gta cag ctg 582
 Lys Ala Leu Gln Val Asn Cys Val Val Arg Lys Leu Leu Val Gln Leu
 170 175 180

16U 200 PCT FINAL.ST25

aga cgt ctg tat tgg tgg gtg gag act atg act gcc ctc acc tcc tgg	630
Arg Arg Leu Tyr Trp Trp Val Glu Thr Met Thr Ala Leu Thr Ser Trp	
185 190 195	
cac ctg gcc tat ctc atc acc tgg acc acc tgc ctg gcc tcc cac ctg	678
His Leu Ala Tyr Leu Ile Thr Trp Thr Thr Cys Leu Ala Ser His Leu	
200 205 210	
ctg cag gct gcc ttt gag cac acg acc cag ctg gcc gag gcc cag gag	726
Leu Gln Ala Ala Phe Glu His Thr Thr Gln Leu Ala Glu Ala Gln Glu	
215 220 225 230	
gtt gaa ccc cag gag gtc tca ggg tct tcc ttg ctg ccc tca ctg tct	774
Val Glu Pro Gln Glu Val Ser Gly Ser Ser Leu Leu Pro Ser Leu Ser	
235 240 245	
gcg tcc tcg gac tca gag tct gga aca gtt ttg cca gag caa gaa act	822
Ala Ser Ser Asp Ser Glu Ser Gly Thr Val Leu Pro Glu Gln Glu Thr	
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Pro Arg Glu	
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Gln Val Thr Arg Leu Ser Val Leu Leu Val Gln Asn Arg Asp His Leu	
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Tyr Asn Phe Leu Leu Lys Ile Asn Leu Phe Asn His Trp Val Ser	
35 40 45	
Gly Leu Ala Gln Glu Ala Arg Gly Ser Cys Asn Trp Gln Ala His Leu	
50 55 60	
Pro Leu Gly Ala Ala Ala Cys Pro Leu Gly Gln Ala Leu Trp Ala Gly	
65 70 75 80	
Leu Ala Leu Ile Gln Val Pro Val Trp Leu Val Leu Gln Gly Pro Arg	
85 90 95	
Leu Met Trp Ala Gly Met Trp Gly Ser Thr Lys Gly Leu Gly Leu Ala	
100 105 110	
Leu Leu Ser Ala Trp Glu Gln Leu Gly Leu Ser Val Ala Ile Trp Thr	
115 120 125	
Asp Leu Phe Leu Ser Cys Leu His Gly Leu Met Leu Val Ala Leu Leu	
130 135 140	
Leu Val Val Val Thr Trp Arg Val Cys Gln Lys Ser His Cys Phe Arg	
145 150 155 160	
Leu Gly Arg Gln Leu Ser Lys Ala Leu Gln Val Asn Cys Val Val Arg	
165 170 175	
Lys Leu Leu Val Gln Leu Arg Arg Leu Tyr Trp Trp Val Glu Thr Met	
180 185 190	

16U 200 PCT FINAL.ST25

Thr Ala Leu Thr Ser Trp His Leu Ala Tyr Leu Ile Thr Trp Thr Thr
 195 200 205

Cys Leu Ala Ser His Leu Leu Gln Ala Ala Phe Glu His Thr Thr Gln
 210 215 220

Leu Ala Glu Ala Gln Glu Val Glu Pro Gln Glu Val Ser Gly Ser Ser
 225 230 235 240

Leu Leu Pro Ser Leu Ser Ala Ser Ser Asp Ser Glu Ser Gly Thr Val
 245 250 255

Leu Pro Glu Gln Glu Thr Pro Arg Glu
 260 265

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 Met Lys Lys Ile Glu Ile
 1 5

agt ggg acg tgt ctt tcc ttt cat ctc ctt ttc ggc ttg gaa atc aga 162
 Ser Gly Thr Cys Leu Ser Phe His Leu Leu Phe Gly Leu Glu Ile Arg
 10 15 20

atg aga agg att gtt ttt gct ggt gtt atc tta ttc cgc ctc tta ggt 210
 Met Arg Arg Ile Val Phe Ala Gly Val Ile Leu Phe Arg Leu Leu Gly
 25 30 35

gtt atc tta ttc cgc ctc tta ggt gtt atc tta ttc ggc cgc tta ggt 258
 Val Ile Leu Phe Arg Leu Leu Gly Val Ile Leu Phe Gly Arg Leu Gly
 40 45 50

gac ctg gga acc tgc cag aca aaa cct ggt cag tac tgg aaa gaa gag 306
 Asp Leu Gly Thr Cys Gln Thr Lys Pro Gly Gln Tyr Trp Lys Glu Glu
 55 60 65 70

gtc cac att caa gat gtt gga ggt ttg att tgc aga gca tgc aat ctt 354
 Val His Ile Gln Asp Val Gly Leu Ile Cys Arg Ala Cys Asn Leu
 75 80 85

tca ctg ccc ttc cat gga tgt ctt tta gac ctg gga acc tgc cag gca 402
 Ser Leu Pro Phe His Gly Cys Leu Leu Asp Leu Gly Thr Cys Gln Ala
 90 95 100

gaa cct ggt cag tac tgt aaa gaa gag gtc cac att caa ggt ggc att 450
 Glu Pro Gly Gln Tyr Cys Lys Glu Glu Val His Ile Gln Gly Ile
 105 110 115

caa tgg tat tca gtc aaa ggc tgc aca aag aac aca tca gag tgc ttc 498
 Gln Trp Tyr Ser Val Lys Gly Cys Thr Lys Asn Thr Ser Glu Cys Phe
 120 125 130

aag agt act ctc gtc aag aga att ctg caa ctg cat gaa ctt gta act 546
 Lys Ser Thr Leu Val Lys Arg Ile Leu Gln Leu His Glu Leu Val Thr
 135 140 145 150

act cac tgc tgc aat cat tct ttg tgc aat ttc tgagtca gcccataatct 599
 Thr His Cys Cys Asn His Ser Leu Cys Asn Phe
 155 160

aaaatgcttg gcagatcaat cagtctcgaa gcctgacactg gctatcacaa aatgatggct 659

16U 200 PCT FINAL.ST25

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 35 40 45

Leu Phe Gly Arg Leu Gly Asp Leu Gly Thr Cys Gln Thr Lys Pro Gly
 50 55 60

Gln Tyr Trp Lys Glu Glu Val His Ile Gln Asp Val Gly Gly Leu Ile
 65 70 75 80

Cys Arg Ala Cys Asn Leu Ser Leu Pro Phe His Gly Cys Leu Leu Asp
 85 90 95

Leu Gly Thr Cys Gln Ala Glu Pro Gly Gln Tyr Cys Lys Glu Glu Val
 100 105 110

His Ile Gln Gly Gly Ile Gln Trp Tyr Ser Val Lys Gly Cys Thr Lys
 115 120 125

Asn Thr Ser Glu Cys Phe Lys Ser Thr Leu Val Lys Arg Ile Leu Gln
 130 135 140

Leu His Glu Leu Val Thr Thr His Cys Cys Asn His Ser Leu Cys Asn
 145 150 155 160

Phe

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 <223>

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 Gly Ala Ser Lys His Lys Leu His Tyr Arg Lys Glu Val Glu Ile Thr
 15 20 25

acc aca ctt cag gaa ttg tta ctc tac ttt att ttt tta ata aac cta 149

16U 200 PCT FINAL.ST25

Thr Thr Leu Gln Glu Leu Leu Leu Tyr Phe Ile Phe Leu Ile Asn Leu	30	35	40	
tgt ata ttg act ttt ggg atg gta aac cca cat atg tat tac tta aac				197
Cys Ile Leu Thr Phe Gly Met Val Asn Pro His Met Tyr Tyr Leu Asn				
45	50	55		
aag gtt atg tca tct cta ttt ttg gac act tct gtg cct ggt gaa gaa				245
Lys Val Met Ser Ser Leu Phe Leu Asp Thr Ser Val Pro Gly Glu Glu				
60	65	70		
aga acc aac ttt aag tcc att cgc agc ata act gat ttt tgg aag ttt				293
Arg Thr Asn Phe Lys Ser Ile Arg Ser Ile Thr Asp Phe Trp Lys Phe				
75	80	85	90	
atg gaa gga ccc ctt ttg gaa ggt ctg tac tgg gat tca tgg tac aat				341
Met Glu Gly Pro Leu Leu Glu Gly Leu Tyr Trp Asp Ser Trp Tyr Asn				
95	100	105		
aac cag cag ctg tat aat tta aag aac agc agt cgc atc tac tat gaa				389
Asn Gln Gln Leu Tyr Asn Leu Lys Asn Ser Ser Arg Ile Tyr Tyr Glu				
110	115	120		
aat ata ctt cta gga gtt ccc aga gtt cgt caa cta aaa gtc cgc aac				437
Asn Ile Leu Leu Gly Val Pro Arg Val Arg Gln Leu Lys Val Arg Asn				
125	130	135		
aac aca tgc aaa gtc tat tca tct ttt cag tct ttg atg agt gaa tgt				485
Asn Thr Cys Lys Val Tyr Ser Ser Phe Gln Ser Leu Met Ser Glu Cys				
140	145	150		
tat ggc aaa tat act tct gca aat gaa gac ctc tct aat ttt ggc ctt				533
Tyr Gly Lys Tyr Thr Ser Ala Asn Glu Asp Leu Ser Asn Phe Gly Leu				
155	160	165	170	
caa att aat act gaa tgg aga tat tct act tct aat acc aac tcc cct				581
Gln Ile Asn Thr Glu Trp Arg Tyr Ser Thr Ser Asn Thr Asn Ser Pro				
175	180	185		
tgg cac tgg gga ttt ctt ggt gtt tac cga aat ggg gga tac att ttc				629
Trp His Trp Gly Phe Leu Gly Val Tyr Arg Asn Gly Gly Tyr Ile Phe				
190	195	200		
act tta tca aaa tcg aaa tct gaa acc aaa aac aag ttc att gac ctt				677
Thr Leu Ser Lys Ser Glu Thr Lys Asn Lys Phe Ile Asp Leu				
205	210	215		
cga ctg aac agc tgg atc aca aga ggg act aga gtt att ttt att gat				725
Arg Leu Asn Ser Trp Ile Thr Arg Gly Thr Arg Val Ile Phe Ile Asp				
220	225	230		
ttt tcc tta tat aat gct aat gta aat cta ttt tgt att atc aga ttg				773
Phe Ser Leu Tyr Asn Ala Asn Val Asn Leu Phe Cys Ile Ile Arg Leu				
235	240	245	250	
gtg gca gaa ttc cct gca act gga gga ata ctt act tca tgg cag ttt				821
Val Ala Glu Phe Pro Ala Thr Gly Gly Ile Leu Thr Ser Trp Gln Phe				
255	260	265		
tac tct gtg aag ctc ctc aga tat gtt agc tac tat gac tat ttt att				869
Tyr Ser Val Lys Leu Leu Arg Tyr Val Ser Tyr Tyr Asp Tyr Phe Ile				
270	275	280		
gct tcc tgt gaa atc aca ttc tgt att ttt ctt ttt gtc ttc aca aca				917
Ala Ser Cys Glu Ile Thr Phe Cys Ile Phe Leu Phe Val Phe Thr Thr				
285	290	295		
caa gaa gtc aaa aaa ata aaa gaa ttt aag tct gcc tat ttc aaa agt				965
Gln Glu Val Lys Lys Ile Lys Glu Phe Lys Ser Ala Tyr Phe Lys Ser				
300	305	310		
att tgg aac tgg cta gaa ttg cta ctt ttg ctg ttg tgt ttt gtg gct				1013
Ile Trp Asn Trp Leu Glu Leu Leu Leu Leu Cys Phe Val Ala				
315	320	325	330	
gtt tcc ttc aac aca tac tat aat gta caa att ttt ctc tta ctt gga				1061
Val Ser Phe Asn Thr Tyr Tyr Asn Val Gln Ile Phe Leu Leu Gly				
335	340	345		

16U 200 PCT FINAL.ST25
 cag ctg ttg aaa agt act gaa aaa tat tca gat ttc tat ttt ctt gca 1109
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 tgc tgg cac att tat tac aat aat ata att gct att acc atc ttt ttt 1157
 Cys Trp His Ile Tyr Tyr Asn Asn Ile Ile Ala Ile Thr Ile Phe Phe
 365 370 375
 gca tgg ata aag ata ttc aaa ttc ata agc ttt aac aag aca atg tct 1205
 Ala Trp Ile Lys Ile Phe Lys Phe Ile Ser Phe Asn Lys Thr Met Ser
 380 385 390
 cag ctg tca tca acc ttg tcc cgt tgg ttt aaa gac ata gta gga ttt 1253
 Gln Leu Ser Ser Thr Leu Ser Arg Cys Val Lys Asp Ile Val Gly Phe
 395 400 405 410
 gcc atc atg ttt ttt ata ata ttc ttt gct tat gcc cag tta gga ttt 1301
 Ala Ile Met Phe Phe Ile Phe Ala Tyr Ala Gln Leu Gly Phe
 415 420 425
 ctt gtt ttt gga tca caa gtt gat gac ttt tcc act ttt cag aat tcc 1349
 Leu Val Phe Gly Ser Gln Val Asp Asp Phe Ser Thr Phe Gln Asn Ser
 430 435 440
 ata ttt gca caa ttt cga att gtt ctt gga gat ttt aat ttt gct ggt 1397
 Ile Phe Ala Gln Phe Arg Ile Val Leu Gly Asp Phe Asn Phe Ala Gly
 445 450 455
 att cag caa gcc aat cct atc ttg gga ccc att tac ttc atc act ttc 1445
 Ile Gln Gln Ala Asn Pro Ile Leu Gly Pro Ile Tyr Phe Ile Thr Phe
 460 465 470
 atc ttt ttt gtg ttc ttt gtc ctg ctg aat atg ttc ttg gca att att 1493
 Ile Phe Phe Val Phe Val Leu Leu Asn Met Phe Leu Ala Ile Ile
 475 480 485 490
 aat gat acc tat tct gaa gtg aaa gct gac tat tca ata ggc aga agg 1541
 Asn Asp Thr Tyr Ser Glu Val Lys Ala Asp Tyr Ser Ile Gly Arg Arg
 495 500 505
 cca gat ttt gaa ctt ggc aaa atg att aaa cag agt tac aaa aat gtt 1589
 Pro Asp Phe Glu Leu Gly Lys Met Ile Lys Gln Ser Tyr Lys Asn Val
 510 515 520
 ctc gag aaa ttc aga ctg aag aaa gct caa aaa gat gaa gac aag aaa 1637
 Leu Glu Lys Phe Arg Leu Lys Lys Ala Gln Lys Asp Glu Asp Lys Lys
 525 530 535
 acc aaa ggc agc gga gat ttg gct gaa caa gcc aga aga gaa ggc ttt 1685
 Thr Lys Gly Ser Gly Asp Leu Ala Glu Gln Ala Arg Arg Glu Gly Phe
 540 545 550
 gac gaa aat gag att caa aac gca gag cag atg aaa aaa tgg aaa gag 1733
 Asp Glu Asn Glu Ile Gln Asn Ala Glu Gln Met Lys Lys Trp Lys Glu
 555 560 565 570
 agg ctt gag aaa aag tat tat tct atg gaa att caa gat gac tac cag 1781
 Arg Leu Glu Lys Tyr Tyr Ser Met Glu Ile Gln Asp Asp Tyr Gln
 575 580 585
 cct gtc act caa gaa gaa ttt cga gat ggc acc aca acc aag tac aaa 1829
 Pro Val Thr Gln Glu Glu Phe Arg Asp Gly Thr Thr Lys Tyr Lys
 590 595 600
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 Met Arg Phe Ser Leu Ser Ala
 605
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 tatcttatat ggattttgaa gaatcttggtt tgcttataag aacttcaaga agcctaagct 2000
 tggctttaat tttcttgatc tctctgtact cctcaagcac tggAACACGA tcctttct 2060
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16U 200 PCT FINAL.ST25

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<211> 609
<212> PRT
<213> Homo sapiens

<400> 253

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35 40 45

Met Val Asn Pro His Met Tyr Tyr Leu Asn Lys Val Met Ser Ser Leu
50 55 60

Phe Leu Asp Thr Ser Val Pro Gly Glu Glu Arg Thr Asn Phe Lys Ser
65 70 75 80

Ile Arg Ser Ile Thr Asp Phe Trp Lys Phe Met Glu Gly Pro Leu Leu
85 90 95

Glu Gly Leu Tyr Trp Asp Ser Trp Tyr Asn Asn Gln Gln Leu Tyr Asn
100 105 110

Leu Lys Asn Ser Ser Arg Ile Tyr Tyr Glu Asn Ile Leu Leu Gly Val
115 120 125

Pro Arg Val Arg Gln Leu Lys Val Arg Asn Asn Thr Cys Lys Val Tyr
130 135 140

Ser Ser Phe Gln Ser Leu Met Ser Glu Cys Tyr Gly Lys Tyr Thr Ser
145 150 155 160

Ala Asn Glu Asp Leu Ser Asn Phe Gly Leu Gln Ile Asn Thr Glu Trp
165 170 175

Arg Tyr Ser Thr Ser Asn Thr Asn Ser Pro Trp His Trp Gly Phe Leu
180 185 190

Gly Val Tyr Arg Asn Gly Gly Tyr Ile Phe Thr Leu Ser Lys Ser Lys
195 200 205

Ser Glu Thr Lys Asn Lys Phe Ile Asp Leu Arg Leu Asn Ser Trp Ile
210 215 220

Thr Arg Gly Thr Arg Val Ile Phe Ile Asp Phe Ser Leu Tyr Asn Ala
225 230 235 240

Asn Val Asn Leu Phe Cys Ile Ile Arg Leu Val Ala Glu Phe Pro Ala
245 250 255

Thr Gly Gly Ile Leu Thr Ser Trp Gln Phe Tyr Ser Val Lys Leu Leu
260 265 270

Arg Tyr Val Ser Tyr Tyr Asp Tyr Phe Ile Ala Ser Cys Glu Ile Thr
275 280 285

16U 200 PCT FINAL.ST25

Phe Cys Ile Phe Leu Phe Val Phe Thr Thr Gln Glu Val Lys Lys Ile
290 295 300

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305 310 315 320

Leu Leu Leu Leu Leu Cys Phe Val Ala Val Ser Phe Asn Thr Tyr
325 330 335

Tyr Asn Val Gln Ile Phe Leu Leu Gly Gln Leu Leu Lys Ser Thr
340 345 350

Glu Lys Tyr Ser Asp Phe Tyr Phe Leu Ala Cys Trp His Ile Tyr Tyr
355 360 365

Asn Asn Ile Ile Ala Ile Thr Ile Phe Phe Ala Trp Ile Lys Ile Phe
370 375 380

Lys Phe Ile Ser Phe Asn Lys Thr Met Ser Gln Leu Ser Ser Thr Leu
385 390 395 400

Ser Arg Cys Val Lys Asp Ile Val Gly Phe Ala Ile Met Phe Phe Ile
405 410 415

Ile Phe Phe Ala Tyr Ala Gln Leu Gly Phe Leu Val Phe Gly Ser Gln
420 425 430

Val Asp Asp Phe Ser Thr Phe Gln Asn Ser Ile Phe Ala Gln Phe Arg
435 440 445

Ile Val Leu Gly Asp Phe Asn Phe Ala Gly Ile Gln Gln Ala Asn Pro
450 455 460

Ile Leu Gly Pro Ile Tyr Phe Ile Thr Phe Ile Phe Phe Val Phe Phe
465 470 475 480

Val Leu Leu Asn Met Phe Leu Ala Ile Ile Asn Asp Thr Tyr Ser Glu
485 490 495

Val Lys Ala Asp Tyr Ser Ile Gly Arg Arg Pro Asp Phe Glu Leu Gly
500 505 510

Lys Met Ile Lys Gln Ser Tyr Lys Asn Val Leu Glu Lys Phe Arg Leu
515 520 525

Lys Lys Ala Gln Lys Asp Glu Asp Lys Lys Thr Lys Gly Ser Gly Asp
530 535 540

Leu Ala Glu Gln Ala Arg Arg Glu Gly Phe Asp Glu Asn Glu Ile Gln
545 550 555 560

Asn Ala Glu Gln Met Lys Lys Trp Lys Glu Arg Leu Glu Lys Lys Tyr
565 570 575

Tyr Ser Met Glu Ile Gln Asp Asp Tyr Gln Pro Val Thr Gln Glu Glu
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595 600 16U 200 PCT FINAL ST25
605

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<213> *Homo sapiens*

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<222> (1)..(1584)
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 gcc att cgt tca cgt ctc atc gat act ttc tct ctc att gag cat ttg
 Ala Ile Arg Ser Arg Leu Ile Asp Thr Phe Ser Leu Ile Glu His Leu
 20 25 30
 96
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 caa ggc ttg agc caa gct gtg ccg cgg cac act atc agg gag tta ctt
 Gln Gly Leu Ser Gln Ala Val Pro Arg His Thr Ile Arg Glu Leu Leu
 35 40 45
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 gat cct tcc cgc cag aag aaa ctt gta ttg gga gat caa cac cag cta
 Asp Pro Ser Arg Gln Lys Lys Leu Val Leu Gly Asp Gln His Gln Leu
 50 55 60
 240
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 gtg cgt ttc tct ata aag cct cag cgt ata gaa cag att tca cat gcc
 Val Arg Phe Ser Ile Lys Pro Gln Arg Ile Glu Gln Ile Ser His Ala
 65 70 75 80
 cag agg ctg ttg agc agg ctt cat gtg cgc tgc agt cag agg cca cct
 Gln Arg Leu Leu Ser Arg Leu His Val Arg Cys Ser Gln Arg Pro Pro
 85 90 95
 336
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 100 105 110
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 Ile Glu Leu Leu Glu Ser Thr Asn Thr Lys Leu Trp Pro Leu Lys Leu
 130 135 140
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 acc ttg gag gtg gca gct tgg ttt atc ttg ctt att ttc atc ctg gag
 Thr Leu Glu Val Ala Ala Trp Phe Ile Leu Leu Ile Phe Ile Leu Glu
 145 150 155 160
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 atc ctt ctt aag tgg cta tcc aac ttt tct gtt ttc tgg aag agt gcc
 Ile Leu Leu Lys Trp Leu Ser Asn Phe Ser Val Phe Trp Lys Ser Ala
 165 170 175
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 180 185 190
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 gtt gtg gta ttg gta ggg gta aca ggc caa tcg gtg tgg ctt cag ctt
 Val Val Val Leu Val Gly Val Thr Gly Gln Ser Val Trp Leu Gln Leu
 195 200 205
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 ctg agg atc tgc cgg gtg ctg agg tct ctc aaa ctc ctt gca caa ttc
 Leu Arg Ile Cys Arg Val Leu Arg Ser Leu Lys Leu Leu Ala Gln Phe
 210 215 220
 720
 cgt caa att caa att att ttg gtc ctg gtc agg gcc ctc aag agc
 Arg Gln Ile Gln Ile Ile Leu Val Leu Val Arg Ala Leu Lys Ser
 225 230 235 240
 768

160 200 PCT FINAL.ST25

Met Thr Phe Leu Leu Met Leu Leu Ile	Phe Phe Tyr Ile Phe Ala	
245	250	255
gtg act ggt gtc tac gtc ttc tca gag tac acc cgt tca cct cgt cag		816
Val Thr Gly Val Tyr Val Phe Ser Glu Tyr Thr Arg Ser Pro Arg Gln		
260	265	270
gac ctg gag tac cat gtg ttc ttc gac ctc ccg aat tcc ctg gta		864
Asp Leu Glu Tyr His Val Phe Phe Ser Asp Leu Pro Asn Ser Leu Val		
275	280	285
aca gtg ttc att ctc ttc acc ttg gat cat tgg tat gca ctg ctt cag		912
Thr Val Phe Ile Leu Phe Thr Leu Asp His Trp Tyr Ala Leu Leu Gln		
290	295	300
gac gtc tgg aag gtg cct gaa gtc agt cgc atc ttc agc agc atc tat		960
Asp Val Trp Lys Val Pro Glu Val Ser Arg Ile Phe Ser Ser Ile Tyr		
305	310	315
tcc atc ctt tgg ttg ctt ggc tcc att atc ttt cga agt atc ata		1008
Phe Ile Leu Trp Leu Leu Leu Gly Ser Ile Ile Phe Arg Ser Ile Ile		
325	330	335
gta gcc atg atg gtt act aac ttt cag aat atc agg aaa gag ctg aat		1056
Val Ala Met Met Val Thr Asn Phe Gln Asn Ile Arg Lys Glu Leu Asn		
340	345	350
gag gag atg gcg cgt cgg gag gtt cag ctc aaa gct gac atg ttc aag		1104
Glu Glu Met Ala Arg Arg Glu Val Gln Leu Lys Ala Asp Met Phe Lys		
355	360	365
cgg cag atc atc cag agg aga aaa aac atg tca cat gaa gca ctg acg		1152
Arg Gln Ile Ile Gln Arg Arg Lys Asn Met Ser His Glu Ala Leu Thr		
370	375	380
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Ser Ser His Ser Lys Ile Glu Asp Arg Gly Ala Ser Gln Gln Arg Glu		
385	390	395
400		
agt ttg gac tta tca gaa gtt tct gaa gta gag tct aat tat ggt gcc		1248
Ser Leu Asp Leu Ser Glu Val Ser Glu Val Glu Ser Asn Tyr Gly Ala		
405	410	415
act gaa gag gat tta ata aca tct gca tca aaa aca gaa gag acc ttg		1296
Thr Glu Glu Asp Leu Ile Thr Ser Ala Ser Lys Thr Glu Glu Thr Leu		
420	425	430
tca aaa aag aga gag tac cag tct tcc tcc tgt gtc tcc tcc aca tcc		1344
Ser Lys Lys Arg Glu Tyr Gln Ser Ser Ser Cys Val Ser Ser Thr Ser		
435	440	445
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Ser Ser Tyr Ser Ser Ser Glu Ser Arg Phe Ser Glu Ser Ile Gly		
450	455	460
cgt ttg gac tgg gag act ctt gtg cac gaa aat ctg ccc ggg cta atg		1440
Arg Leu Asp Trp Glu Thr Leu Val His Glu Asn Leu Pro Gly Leu Met		
465	470	475
480		
gaa atg gat cag gat gac cgt gtt tgg ccc aga gac tca ctc ttc cga		1488
Glu Met Asp Gln Asp Asp Arg Val Trp Pro Arg Asp Ser Leu Phe Arg		
485	490	495
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Tyr Phe Glu Leu Leu Glu Lys Leu Gln Tyr Asn Leu Glu Arg Lys		
500	505	510
aag tta caa gag ttt gca gtg cag gca ctg atg aac ttg gaa gac aag		1584
Lys Leu Gln Glu Phe Ala Val Gln Ala Leu Met Asn Leu Glu Asp Lys		
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16U 200 PCT FINAL.ST25

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35 40 45Asp Pro Ser Arg Gln Lys Lys Leu Val Leu Gly Asp Gln His Gln Leu
50 55 60Val Arg Phe Ser Ile Lys Pro Gln Arg Ile Glu Gln Ile Ser His Ala
65 70 75 80Gln Arg Leu Leu Ser Arg Leu His Val Arg Cys Ser Gln Arg Pro Pro
85 90 95Leu Ser Leu Trp Ala Gly Trp Val Leu Glu Cys Pro Leu Phe Lys Asn
100 105 110Phe Ile Ile Phe Leu Val Phe Leu Asn Thr Ile Ile Leu Met Val Glu
115 120 125Ile Glu Leu Leu Glu Ser Thr Asn Thr Lys Leu Trp Pro Leu Lys Leu
130 135 140Thr Leu Glu Val Ala Ala Trp Phe Ile Leu Leu Ile Phe Ile Leu Glu
145 150 155 160Ile Leu Leu Lys Trp Leu Ser Asn Phe Ser Val Phe Trp Lys Ser Ala
165 170 175Trp Asn Val Phe Asp Phe Val Val Thr Met Leu Ser Leu Leu Pro Glu
180 185 190Val Val Val Leu Val Gly Val Thr Gly Gln Ser Val Trp Leu Gln Leu
195 200 205Leu Arg Ile Cys Arg Val Leu Arg Ser Leu Lys Leu Leu Ala Gln Phe
210 215 220Arg Gln Ile Gln Ile Ile Leu Val Leu Val Arg Ala Leu Lys Ser
225 230 235 240Met Thr Phe Leu Leu Met Leu Leu Ile Phe Phe Tyr Ile Phe Ala
245 250 255Val Thr Gly Val Tyr Val Phe Ser Glu Tyr Thr Arg Ser Pro Arg Gln
260 265 270Asp Leu Glu Tyr His Val Phe Phe Ser Asp Leu Pro Asn Ser Leu Val
275 280 285Thr Val Phe Ile Leu Phe Thr Leu Asp His Trp Tyr Ala Leu Leu Gln
290 295 300

Asp Val Trp Lys Val Pro Glu Val Ser Arg Ile Phe Ser Ser Ile Tyr

16U 200 PCT FINAL.ST25
 305 310 315 320

Phe Ile Leu Trp Leu Leu Leu Gly Ser Ile Ile Phe Arg Ser Ile Ile
 325 330 335

Val Ala Met Met Val Thr Asn Phe Gln Asn Ile Arg Lys Glu Leu Asn
 340 345 350

Glu Glu Met Ala Arg Arg Glu Val Gln Leu Lys Ala Asp Met Phe Lys
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Arg Gln Ile Ile Gln Arg Arg Lys Asn Met Ser His Glu Ala Leu Thr
 370 375 380

Ser Ser His Ser Lys Ile Glu Asp Arg Gly Ala Ser Gln Gln Arg Glu
 385 390 395 400

Ser Leu Asp Leu Ser Glu Val Ser Glu Val Glu Ser Asn Tyr Gly Ala
 405 410 415

Thr Glu Glu Asp Leu Ile Thr Ser Ala Ser Lys Thr Glu Glu Thr Leu
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Ser Lys Lys Arg Glu Tyr Gln Ser Ser Ser Cys Val Ser Ser Thr Ser
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Ser Ser Tyr Ser Ser Ser Glu Ser Arg Phe Ser Glu Ser Ile Gly
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Arg Leu Asp Trp Glu Thr Leu Val His Glu Asn Leu Pro Gly Leu Met
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Glu Met Asp Gln Asp Asp Arg Val Trp Pro Arg Asp Ser Leu Phe Arg
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